Delivering the Brand...and the Business

Can your current brand management processes and tools support today's complexity?

March 2015



CIMdata, Inc. 3909 Research Park Drive Ann Arbor, MI 48108 +1 734.668.9922 www.CIMdata.com CPG and F&B industries
can no longer afford to
Delivering the Brand...and the Pukeing Tecemeal
Can your current processes and tools support today's complete to brand
management; a lifecycle
approach is required.

Delivering the Brand...and the Business

"Can your current processes and tools support today's complexity?" Often asked by today's leading consumer packaged goods (CPG) companies—few feel confident with their answer. It is well understood that maximizing brand value is a competitive necessity; unfortunately, many companies do not possess the end-to-end capabilities to do so in a consistent and repeatable manner—and in many cases their survival depends on it. This paper discusses why companies in the CPG and similar industries (e.g., food and beverage) require an end-to-end and fully connected approach to delivering their brands. Additionally, this paper discusses how requirements and lifecycle portfolio management as well as building out product and innovation platforms, play important roles in a company's success.

Introduction

Senior management within the consumer packaged goods (CPG) and similar industries (e.g., food and beverage) now recognize that maximizing brand value is more complex and more important than ever. In today's world of specialization, mass customization, outsourcing, and subcontracting, brands are a company's most critical asset for market differentiation and beating the competition—which ultimately maximize shareholder value. A brand is an intangible collection of features that distinguish a product, but underlying the brand are tangible components that must be defined and managed (Figure 1). These components define what is delivered to the retailer, the consumer, and to the market. They must be understood and managed from an end-to-end perspective, thereby ensuring the brand's long-term, sustainable market success.

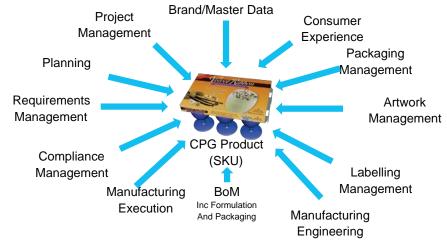


Figure 1—The Breadth of Data that Defines a Product (Courtesy of Siemens PLM Software)

CPG companies are built on the power, consistency, and long-term sustainability of their brands. Consumer needs, regulatory requirements, and competitive pressures continue to add complexity, thereby forcing many companies to relook at and rethink how they manage their brands and all associated definition information. Many realize during this "rethink" that their old methods are no longer valid. Adopting a holistic, end-to-end view and managing brand assets across their lifecycles—from virtual to physical—reduces risk and improves a business' top and bottom lines. Fundamentally, keeping pace in a competitive and changing market requires new and improved ways of working.

This paper investigates the business challenges that demand an end-to-end view, support, and optimization of key brand management activities (e.g., product development); how a comprehensive product lifecycle management (PLM) strategy supports these key activities; and how one PLM solution provider, Siemens PLM Software, is delivering solutions that support these strategies and enable a platform for innovation. Insight and research comes from CIMdata's extensive knowledge base and collaboration with numerous companies in this industrial sector, with partial support provided by Siemens PLM Software.

Effective Brand Asset Management

Historically, point solutions, email, documents, and desktop applications have been the tools of choice to manage a brand's tangible components. Business pressures including cost, complexity, and compliance are causing companies to rethink their business approaches, take a holistic end-to-end view, and manage their tangible brand assets across their complete lifecycles, rather than in a disconnected manner.

To successfully deliver the brand, product attributes must be aligned, managed, optimized, and evolved to the brand definition. Additionally, product requirements from across the enterprise (e.g., from marketing, finance, sourcing, compliance, manufacturing, and distribution) must be included in product development and other key brand-management processes. The benefits of this alignment can be substantial, including reduced cost and risk, and enhanced brand and customer loyalty. The problem for most companies is that they don't currently manage all of their tangible brand assets.

The management of the tangible brand assets (i.e., data that describes the product, manufacturing processes, and in-market interaction) requires data to be created, captured (at the point of creation), managed, securely shared, and leveraged throughout the extended enterprise, so that all enterprise participants are working from a single source of truth. This comprehensive data set represents the brand. Ultimately, the elimination of data silos ensures that everyone has a common understanding of the brand and the resulting products. Companies using this approach have significantly increased brand value while simultaneously reducing risk to their brand image.

To deliver the brand, product attributes must be aligned, managed, optimized, and evolved to the brand definition.

Holistic Product Definition

An organization's holistic product definition encompasses all tangible brand data (i.e., its definition). This definition usually includes: brand master data, market requirements, product performance and characteristic specifications, packaging, manufacturing specifications, labels, artwork, compliance, planning, and project management information. Holistically, managing a company's product definition from concept through retirement (Figure 2) requires the implementation of a PLM strategy and its supporting technologies.

Holistic brand definition encompasses all tangible information assets that define the brand's requirements.

Research and experience show that the holistic management of a company's product definition results in a number of key benefits, including:

- Product variants can be developed with less effort.
- Product gaps can be easily identified.
- The ability to adapt and deliver in new markets is enhanced.
- Artwork definition is aligned with the brand and all market requirements.
- Labels accurately portray the product formulation.
- The impacts of changes on compliance, manufacturing, and cost can be easily assessed before committing significant resources.

The bottom line in all of this—the necessity to get it right the first time and build and protect the brand for the long term—requires a holistic, end-to-end approach to brand-related requirements management, as anything less results in sub-optimization, continued inefficiencies, and islands of disconnected automation and information.



Figure 2—End-To-End Brand Management, from Requirements to Retirement

Requirements—Driving the Product Definition

As already emphasized, effective product development requires the capture and end-to-end management of all product requirements, which drive the product definitions so that such products embody the brand.

Requirements management itself is a discipline, defined as the process of:

1. Documenting, analyzing, tracing, prioritizing and agreeing on the targets and features that define a product, and

Delivering the Brand...and the Business Can your current processes and tools support today's complexity?

2. Controlling change, acceptable parameters, and communicating to all relevant stakeholders

The benefits of fully capturing and managing requirements from concept through retirement, and of ensuring that the resulting product meets all requirements, can be substantial. Those benefits including:

- Reducing cost and risk of recall because of non-conformance
- Reducing time-to-market
- Enhancing the brand's value
- Building customer loyalty

Common Industry Strategies & Challenges

Staying competitive and building brands in today's business environment has many challenges. The pressures of competition, pricing, product complexity, regulatory requirements, and globalization are relentless in most industries, and especially in the CPG and related industry sectors. According to leading retailers and industry experts, there are three main trends driving business today: product differentiation, global and local competition, and brand acquisition. Each of these trends increases the number of stock-keeping units (SKUs) and the amount and complexity of product information that needs to be managed. The most important question management needs to ask is, "Can we effectively and efficiently address these trends without changing the way we manage our brand assets?" A more detailed look into each of these main trends will illustrate the answer.

Today's relentless business challenges include competition, globalization, product complexity, regulatory requirements, and pricing pressures.

Product Differentiation

Multiple industry statistics show that the number of products being introduced is growing. According to one report, the number of grocery store SKUs increased by 50% between 2003 and 2010, and 26% of the grocery retailers surveyed by EKN expect to add more than 1,000 SKUs this year to satisfy consumers. Unfortunately, according to Nielsen data, only 15% of consumer packaged goods launched today will still be around in two years.

Product differentiation is commonly implemented by extending an existing product line, such as through packaging, formula, or recipe changes. This tends to increase the number of SKUs and related complexity required to remember and update all the underlying information that needs to comply with the company's brand guidelines as well as regulatory requirements, to preserve consumer loyalty and reflect the brand value.

Unfortuantely, developing and managing the *right* SKU mix is difficult. To make things worse, traditional methods are struggling to support the additional

According to Nielsen data, only 15% of consumer packaged goods launched today will still be around in two years.

Pant, Gaurav, Sahir Anand, Asheesh Kumar, Neha Aggarwal. Retail Innovation & Technology: Viewpoints on Merchandise Innovation. New Jersey. EKN. June 2014. p6. http://www.eknresearch.com/2014/06/10/ retail-innovation-technology-viewpoint-on-merchandise-innovation/.

data that needs to be created and managed without adding more staff (Figure 3). To do so requires finding the right balance between the desire to cover every market niche with the incremental effort to develop and produce additional SKUs. Ultimately, being able to quickly and efficiently develop *right-to-market* goods is critical to a company's short- and long-term success.

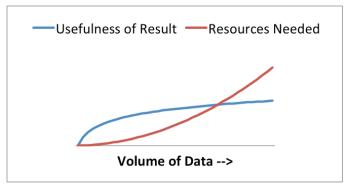


Figure 3—The Usefulness of Results vs. the Volume of Data
The usefulness of results flattens out due to limitations associated with an
organization's lack of appropriate data management and analytical tools.
(http://www.concentricabm.com/wp-content/uploads/Diminishing_Returns_on_Data.png)

For companies in the midst of globalization, like Procter & Gamble, the answer has been to trim and streamline product portfolios. P&G plans to retain only the 70 to 80 core brands that account for 90% of sales and more than 95% of profits. P&G's CFO, Jon Moeller, told market analysts, "About 45% of the brands we plan to exit are sold in three or fewer countries. Another quarter is sold in four to ten countries. Less than a third of these businesses are really global." For companies like P&G, with a sizable number of super brands, this strategy works well—it's how they balance their portfolios. For many other companies, the same principals for smart product differentiation and SKU rationalization must be embraced and managed with the proper PLM strategy and enabling solutions.

PLM solutions aren't only for large companies that have mega brands but also for companies needing new and improved ways to manage product differentiation. PLM has proven its ability to support product differentiation. Numerous case studies have shown that PLM makes it easier to create and maintain product variants and design and manage product platforms that support mass customization. PLM solutions can be used to quickly create and validate product variants using brand rules, resulting in the management and support of more SKUs with less overhead. At a past PLM user event, the American Italian Pasta Company (AIPC) reported a "40% reduction in time spent managing data, and an increase in support activities for analysis and research."

Globalization of Existing Brands

A common strategy for expanding sales is to sell an existing product in a new region, leveraging and extending existing brand recognition. Implementing this strategy usually requires that the product be adapted to local regulatory and language requirements. The challenge is to figure out how to efficiently and effectively understand and satisfy all new market requirements. Sometimes these

AIPC reported a 40% reduction in time spent managing data, and an increase in support activities for analysis and research.

include packaging changes and other times minor product changes. The changes all need to be done within the context of the company's guidelines so the brand isn't compromised. This is especially important in today's connected world where something negative written about a brand can be viewed instantaneously anywhere in the world.

When preparing a launch in a new market, planning, communication, and change management are critical processes, which when managed well can create competitive advantage. Management needs to ensure that all changes align with the brand and its associated business requirements. Ensuring that the changes are properly evaluated and approved is difficult and error prone when using old and outdated ways of communicating and managing information. Here again the data and process management capabilities offered by PLM provide the end-to-end support required. According to one major company, their PLM implementation cut their time to develop labels from 45 to 7 days due to earlier visibility of recipe information and associated regulatory requirements.

According to one major company, their PLM implementation cut their time to develop labels from 45 to 7 days.

Growth through Acquisition

To be successful at executing a growth-through-acquisition strategy, a company must leverage the acquired brands efficiently, gaining synergy from the acquisition while simultaneously building a business platform for their existing brands in newly acquired markets.

While many companies have tried to fully absorb an acquired company, few have been able to keep the "secret sauce" alive (i.e., to fully understand, capture, and continue to leverage the tangible brand assets). Due diligence on brand and product definition, before an acquisition takes place, is critical. Unfortunately, it is often ignored or written off as impossible. Not only is there risk of losing the "secret sauce," there is also the challenge of bringing the intellectual assets into the acquiring company's systems. Both of these issues can be solved by a well thought-out PLM strategy and implementation, because PLM provides the ability to capture, manage, and ultimately understand what defines a brand.

PLM provides the ability to capture, manage, and ultimately understand what defines a brand.

The Cost of Doing Nothing

One can understand how a PLM solution can benefit a company, but what if a company chooses not to pursue and implement a holistic PLM strategy? What is the potential cost of doing nothing? For many, it becomes the short- and long-term costs associated with product recalls.

Product Recalls

One of the biggest risks for a company is a product recall—especially one occurring after the product is in consumers' hands. All manufacturing and distribution costs have been expended, and the product can no longer be sold, causing severe financial impact. Negative publicity from a recall also can drive away customers and significantly deteriorate brand equity.

According to the USDA, there were 134 food recalls in the fourth quarter of 2013, down 47% from the previous quarter, but the number of units affected increased by 52%, due to 3 very large recall events.² Of the fourth-quarter recalls, 16% were due to mislabeled products, 16% to undeclared allergens, 11% had no inspection performed, 5% were due to processing deviations, and 5% to transportation deviations—all potentially data-related issues that could have been addressed with properly integrated technology. A 2010 survey by Deloitte, the Food Marketing Institute (FMI), the Grocery Manufacturers of America (GMA), and GS1 U.S. noted that "most companies have at least partially automated their data capture capabilities; only 18% fully automate data capture throughout the entire production chain from raw materials to finished goods. This inhibits a company's ability to identify the lot number of the affected products quickly." While this automation has improved since 2010, the number of recalls based on data-related issues indicates that many problems still exist. Unfortunately, research has shown that there are actually additional side effects of having inadequate supporting technologies. According to one survey, "40% of CPG innovators will leave their jobs to work for more innovative companies. One of the biggest areas of frustration identified was inadequate tools...While technology investments may be expensive, delaying investments may be worse, due to loss of opportunity."⁴

A significant portion of recalls result from datarelated issues that can be addressed with properly integrated technology.

To minimize the potential effect of a recall, many companies acquire insurance policies that can be used to mitigate financial impact, but recall insurance can do very little about potential long-term erosion in sales, lost brand reputation and customer loyalty, reduction in shelf space at retailers, and business disruption. Clearly, more needs to be done to minimize the potential of a recall in the first place. We cannot expect different results if we continue to do things the same ways we always have done them.

Recall insurance can do very little about potential long-term erosion in sales brand, reputation, and customer loyalty.

Failure to Act Isn't an Option

According to American motivational author Denis Waitley, "Life is inherently risky. There is only one big risk you should avoid at all costs, and that is the risk of doing nothing." The business environment today is changing rapidly and the challenges are increasing at an exponential rate. Doing nothing is not an option, but trying to choose what to do in this climate can paralyze even the most seasoned executives.

While process change and technology investments may be expensive, delaying investments may be worse, due to loss of opportunity. The Affinnova report quoted earlier found that 49% of the CPG innovators feel their companies can't

"There is only one big risk you should avoid at all costs, and that is the risk of doing nothing."

The Recall Sprawl: Quarterly Recall Index, Q4 2013. Indiana: Stericycle. February 2014. p10. http://recall.stericycleexpertsolutions.com/wp-content/uploads/sites/2/2014/02/Recall-Index_Q4_2014_v8.pdf

³ GMA, FMI, GS1 U.S., and Deloitte. Recall Execution Effectiveness: Collaborative Approaches to Improving Consumer Safety and Confidence. 2010. p16. http://www.gmaonline.org/downloads/research-and-reports/ WP_RecallExecution.pdf

Affinnova. The 2014 Consumer Packaged Goods Innovation Report. Waltham, MA. 2014. p8. http://www.affinnova.com/resource-story/benchmark-study-top-companies-new-product-innovation/

http://www.brainyquote.com/quotes/quotes/d/deniswaitl146949.html

move fast enough to keep up with competitors and the pace of the marketplace. The report goes on to say that avoiding action can be the highest risk of all.⁶

According to the 2013 study by the independent analytics firm Symphony IRI Group, only 77 of 1,900 CPG products introduced in 2012 achieved "New Product Pacesetter" status. This rapid SKU growth and low rate of success are indicators that meaningful, relevant innovation, and current product definition and brand asset management solutions are not working. IRI has also detailed the downward trend in average year-one sales. In 2012, 68% of new CPG launches accrued less than \$7.5 million in revenue. This trend indicates that even as new products are becoming more global they are also more targeted and granular.

Fortunately, solutions do exist today that can improve productivity, effectiveness, and standardization while minimizing risk. Although they may not be inexpensive or simple to implement, they can meet required return-on-investment targets and dramatically reduce real costs and risks, while also expanding capacity to address new opportunities, and support product and process innovation. The key point is to not delay, as every product developed and launched from within your current environment is probably leaving money on the table as well as carrying a high risk of failure.

What to do? The first step is to align product development and other key brand management processes with executive and company goals, by identifying issues with critical product processes, and developing a vision and strategy for improvement. The sooner this process starts the sooner benefits will accrue.

Building Out Product & Innovation Platforms

CIMdata views innovation as critical to both product and process development. While product innovation is well accepted, process innovation is equally important. For many new products, new innovative processes are required for production and delivery to the market. Additionally, process innovations can reduce costs and waste, having significant impact on sustainability and overall business profitability. While information technology (IT) does not generally drive innovation, it provides significant support via knowledge management. Capturing and cataloging information provides a platform that can enable innovation. Results from previous experiments and projects can be leveraged to develop new innovations while taking advantage of standards that will allow for a smooth transition into production.

The Need to Rethink the Lifecycle

According to CIMdata's definition, PLM is a strategic business approach that applies a consistent set of business solutions that support the collaborative creation, management, dissemination, and use of product definition information.

Solutions do exist today that can improve productivity, effectiveness, and standardization while minimizing risk.

approach that applies a

PLM is a strategic business

consistent set of business solutions that support the collaborative creation, management, dissemina-

tion, and use of product definition information.

⁶ Affinnova. Innovation Report. p9.

Ng, Serena. P&G to Shed More Than Half Its Brands. New York: WSJ. August 1, 2014. http://online.wsj.com/articles/procter-gamble-posts-higher-profit-on-cost-cutting-1406892304 P&G

Delivering the Brand...and the Business Can your current processes and tools support today's complexity?

It supports the extended enterprise, spanning from concept to end of life of a product or plant, and integrates people, processes, business systems, and information. PLM is much more than product development and commercialization—it requires a lifecycle, end-to-end mindset.

In today's marketplace, a convergence of ideas, technologies, strategies, and associated complexities is well underway. Without taking the appropriate action, many companies will lose out on the benefits provided by these new opportunities (e.g., cloud, the Internet of Things, and 3D printing). Over the years, PLM solutions have proven in many industries to be a catalyst for change—supporting the full product definition and the processes that need to be executed in support of consistent, efficient, and effective delivery of the brand and the business.

PLM: A Catalyst for Change

The PLM industry is entering an accelerating era of end-to-end business platform enablement. The development and acquisition strategies tracked and analyzed by CIMdata illustrate direction and change in industry requirements. A number of the leading PLM solution providers, like Siemens PLM Software, are shifting their attention towards enabling robust and resilient business platforms, requiring a fundamental change for both industrial companies and the solution providers themselves, away from developing, deploying, and integrating best-inclass business solution suites. PLM solution providers are well on their way to enabling clients and preparing them for what is next, including:

- Innovation platform enablement—PLM is rapidly becoming an end-toend and highly connected innovation platform that cultivates continuous
 creativity, yielding improvements in products and processes plus
 inspiring new and better ones throughout full lifecycles and across
 generations of products and product portfolios.
- Transforming the business—PLM enables companies to transform their intellectual property management and the data used to define products.
 PLM supports a company's need to migrate from document- to data-centric processes, which enables data components to be referenced rather than copied, so changes to data can be done in one place.
- Product and process knowledge reuse—A PLM solution captures product data and the relationships between the data as a network of information, describing the product and associated processes in a structure commonly known as bill of information (BOI), which typically includes the product brief, the brand definition's attributes, formulas, recipes, artwork, bills of material (BOMs), and compliance certifications.
- Process automation—PLM solutions enable business process automation using workflow technology. As data moves through workflows, status and approvals are captured, ensuring that processes are properly executed each and every time.

A number of the leading PLM solution providers, like Siemens PLM Software, are clearly shifting their attention towards enabling robust and resilient business platforms...

PLM solutions enable the automation and repetition of business processes.

- Cost management—Tools built into PLM solutions enable costs to be managed throughout the product's lifecycle, based on the product definition. As changes are proposed, calculations to forecast the cost impact are completed in real time so decisions can be made quickly and accurately.
- Packaging, artwork, and label management—PLM solutions track primary, secondary, and tertiary packaging. 3D CAD support enables complex geometry to be developed for increasingly stylized packaging. Artwork and copy components can be managed concurrently; labels can be created automatically from released product definition, checked for compliance, and communicated directly to production systems.
- Information integration and distribution—The PLM solution can be thought of as a single logical source of product and process truth. Confidence in the data and its source helps speed decision making. When changes are required, the links or relationships between data components and across the various data structures make it easy to identify impacts of the change (Figure 4).

PLM solutions can automatically create labels from the released product definition and check them for compliance.

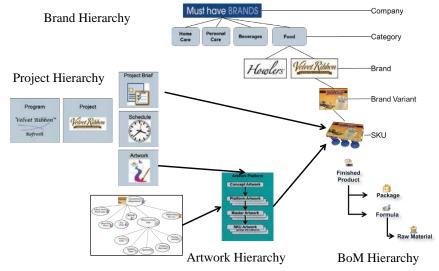


Figure 4—The Complexity of Product Hierarchies Requires Integration (Courtesy of Siemens PLM Software)

In summary, PLM solutions allow companies to consolidate and properly manage all relevant product-related information into a single source of truth, enable more automated processes, shorten the time to find information, and support product and process innovation. Additionally, efficiency and effectiveness are improved across supply chains and manufacturing sites. Finally, products can be localized more easily due to data access and confidence in the data quality.

The Need for PLM Is Clear

To be successful in today's complex and highly competitive global market, best-in-class manufacturers in multiple industries are leveraging commercial-off-the-shelf (COTS) PLM-enabling solutions like those from Siemens PLM Software.

Choosing an open PLM platform is important.

Successful companies are migrating away from custom-built solutions to more open, sustainable, and commercially available solutions. Many large CPG/F&B companies originally developed proprietary software applications to support their PLM requirements, but as those applications became obsolete, many have decided it is more cost effective to use COTS solutions rather than to redevelop their own applications. Utilizing commercially available PLM solutions to manage a company's complete product definition allows that company to focus on their critical business challenges, like ensuring that their brands' values are protected and expanded, instead of burning valuable resources to develop one-off IT solutions.

PLM isn't new to this industry sector. As already discussed, many leading CPG companies have embraced PLM, and as a result there are already many reported benefits. For example, one major food and beverage company has reported that with PLM they "...can now track supplier certification, corrective action reports, plant locations, and products and specifications instantly." At L'Oréal, the global cosmetics company, PLM is used to centralize knowledge management and governance. This allows everyone who is involved in product development to use the same solution and same processes as defined in their PLM solution. This ensures the integrity of the data and process adherence.

Concluding Remarks

In today's global, complex world of consumer, retailer, market, and regulatory requirements, no company can afford not to investigate and implement an appropriate PLM strategy and its associated enabling solutions. The need to make the complex, simple and the disconnected, connected is clear. To be successful, companies must implement product innovation platforms that are open, and based on sustainable architectural principles and supporting technologies. This type of architecture must allow a comprehensive set of heterogeneous functional and process-enabling capabilities to be quickly configured to establish and support standardized end-to-end business processes and related information access. To be effective, companies must move away from the development of custom-built systems that only satisfy yesterday's requirements. Implementing a fit-for-purpose, commercially available solution platform can be a game changer, and trying to go it alone can be a bottomless money pit. Many leading companies in the CPG and similar industries have already embraced PLM.

For many companies there is a clear call to action; they can't continue to apply old ways of working and expect to still be competitive. For those who realize that enabling an end-to-end approach to product lifecycle management is a competitive necessity, and that the adoption of a lifecycle mindset that defines and properly satisfies all requirements should be a core competency, success will be a natural outcome. Furthermore, CIMdata believes that enabling a sustainable and open PLM product and process innovation platform is critical, and in many cases an organization's survival depends on it. No company can

The need to make the complex, simple and the disconnected, connected is clear.

In many companies there is a clear call to action...they just can't continue to apply old ways of working and expect to still to be competitive.

afford to sit on the sideline and wait to get into the game. Those who ignore PLM will find themselves no longer competitive. As history teaches, the price of doing nothing is just too expensive. Companies that do not actively change the way they manage and protect their brands in this increasingly complex world will be left behind.

About CIMdata

CIMdata, a leading independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM) solutions. Since its founding over thirty years ago, CIMdata has delivered world-class knowledge, expertise, and best-practice methods on PLM solutions. These solutions incorporate both business processes and a wideranging set of PLM-enabling technologies.

CIMdata works with both industrial organizations and providers of technologies and services seeking competitive advantage in the global economy. CIMdata helps industrial organizations establish effective PLM strategies, assists in the identification of requirements and selection of PLM technologies, helps organizations optimize their operational structure and processes to implement solutions, and assists in the deployment of these solutions. For PLM solution providers, CIMdata helps define business and market strategies, delivers worldwide market information and analyses, provides education and support for internal sales and marketing teams, as well as overall support at all stages of business and product programs to make them optimally effective in their markets.

In addition to consulting, CIMdata conducts research, provides PLM-focused subscription services, and produces several commercial publications. The company also provides industry education through PLM certification programs, seminars, and conferences worldwide. CIMdata serves clients around the world from offices in North America, Europe, and Asia-Pacific.

To learn more about CIMdata's services, visit our website at www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.

This document is copyright © 2015 by CIMdata, Inc. and is protected by U.S. and international copyright laws and conventions. This document may not be copied, reproduced, stored in a retrieval system, transmitted in any form, posted on a public or private website or bulletin board, or sublicensed to a third party without the written consent of CIMdata. No copyright may be obscured or removed from the paper. CIMdata® is a Registered Trademark of CIMdata, Inc. All trademarks and registered marks of products and companies referred to in this paper are protected.

This document was developed on the basis of information and sources believed to be reliable. This document is to be used "as is." CIMdata makes no guarantees or representations regarding, and shall have no liability for the accuracy of, data, subject matter, quality, or timeliness of the content.