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Profiting from PLM:
Strategy and Delivery
of the PLM Program

July 2007

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Executive Summary

Aberdeen research shows that companies that leverage Product Lifecycle Management (PLM) technologies are recognizing significant top- and bottom-line benefits, such as increasing product revenue by 19%, decreasing product cost by 15%, and reducing development costs by 16% on average. Of course, putting PLM practices and solutions into action requires more than technology. Companies that adopt Best-in-Class approaches to implementing PLM are realizing even greater benefits and returns on their PLM investments.

Best-in-Class Performance

Aberdeen reviewed the PLM implementation experiences of over 185 manufacturers and used five key performance indicators (KPIs) to determine which companies achieved Best-in-Class results. These top performers demonstrated significantly improved performance over their competition in their ability to hit the product development targets that drive profitability: launch dates, product revenue, product cost, product development budgets, and quality. Best-in-Class companies demonstrated a significant performance gap over others, including:

- 5.6 times greater improvement in product margins (28% margin improvements from PLM)

- Double the ROI on initial PLM projects, and 2.5 times higher ROI for subsequent PLM extensions

Competitive Maturity Assessment

The top 20% surveyed, the Best-in-Class, have adopted a "PLM Program" approach, developing a long-term vision for product innovation and engineering processes, and then developing an implementation approach that consists of a number of small, incremental implementation projects to pursue this vision.

Required Actions

To achieve Best-in-Class results from PLM, manufacturers must…

- **Develop a firm vision** and strategy for PLM that identifies a future state to achieve from PLM, and tie that vision back to the overall business strategy

- **Adopt a PLM program approach** to implementing PLM, addressing the implementation of PLM as a series of related projects.

- Approach the PLM implementation as a **business transformation as opposed to a technology installation**, recognizing the need to change behavior and business processes in addition to providing new software.

- **Enable the program** with knowledge sharing and collaboration to better align and synchronize cross-functional project resources.

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Engineering Services

"In order to meet time to market demands and support globalization and outsourced manufacturing, you need concurrent design. We believe that there are 30-35% improvements in productivity can be gained by PLM. But with competencies in different areas of the world that must be tied together, you just need a PLM. You can't do it without PLM, you just can't do that kind of engineering."

-Manager

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Chapter One:
Benchmarking the Best-in-Class

Implementing PLM: Aberdeen Analysis

Aberdeen's *Product Innovation Agenda* research revealed that Best-in-Class companies are four times more likely to leverage product lifecycle management (PLM) related technologies. Companies that deploy PLM related technologies have recognized significant top- and bottom-line benefits, increasing product revenue by 19%, decreasing product cost 15%, and reducing development costs by 16% on average.

Leading companies are receiving greater return on investment (ROI) from PLM implementations by adopting a "PLM Program" approach. These companies have developed a long-term vision for product innovation and engineering processes, and then develop an incremental implementation approach that consists of a number of small projects to pursue this vision. Those that have followed this approach have received greater benefits from their use of PLM technology.

Maturity Class Framework

Aberdeen used five key performance indicators (KPI) to measure companies' implementation of PLM and to distinguish the Best-in-Class companies from the Industry Average and Laggard organizations. These metrics include:

- Improvement in ability to hit product launch dates
- Improvement in ability to hit revenue targets
- Improvement in ability to hit product cost targets
- Improvement in ability to hit product development budgets
- Improvement in ability to hit product quality targets

The benchmark measured the ability for companies to improve the metrics that drive product profitability. The top 20% of companies benchmarked – the Best-in-Class – enjoyed significantly greater improvements from PLM than their competition (Table 1).

Fast Facts

√ Best-in-Class companies average 28% improvement in product margins, 5.6 times greater improvement than Average and Laggard companies

√ Best-in-Class average 67% ROI on initial PLM projects, and 85% ROI for subsequent PLM enhancements – more than twice the ROI received from other companies

Table 1: Top Performers Earn "Best-in-Class" Status

Definition of Maturity Class	Mean Class Performance
Best-in-Class: **Top 20%** of aggregate performance scorers	• **100%** increased hitting launch dates • **84%** increased hitting revenue targets • **89%** increased hitting product cost targets • **95%** increased hitting development budgets • **98%** increased hitting quality targets

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Definition of Maturity Class	Mean Class Performance
Industry Average: **Middle 50%** of aggregate performance scorers	• **44%** increased hitting launch dates • **21%** increased hitting revenue targets • **15%** increased hitting product cost targets • **33%** increased hitting development budgets • **28%** increased hitting quality targets
Laggard: **Bottom 30%** of aggregate performance scorers	• **21%** increased hitting launch dates • **0%** increased hitting revenue targets • **0%** increased hitting product cost targets • **11%** increased hitting development budgets • **11%** increased hitting quality targets

Source: Aberdeen Group, 2007

Best-in-Class PACE Model

To better understand the reasons behind these performance gaps, Aberdeen benchmarked the pressures that have led companies to pursue PLM implementations, the strategies they are pursuing to improve their product profitability, and the underlying business attributes that they have put in place in order to support their efforts. Implementing PLM effectively to achieve superior product development performance requires a combination of strategic actions, organizational capabilities and enabling technology (Table 2). See "Table 5, PACE Framework in Appendix A for more detail on Aberdeen's methodology for benchmarking company initiatives such as PLM Implementation.

Table 2: Best-in-Class PACE Framework

Pressures	Actions	Capabilities	Enablers
• Meet Corporate Goal to Improve Innovation, Despite Increased Complexity of Design / Supply Chains and Market Demand for Rapid Product Introduction	• Improving Design / Engineering Efficiency • Improve New Product Development Project Execution • Improve Integration Between Engineering and Downstream Departments	• Conference Room Pilot • PLM Vision tied clearly to Business Strategy • Lessons Learned / Captured / Reused • Executive Goal-Setting Workshop • Benchmarks / References Reviewed • Cross-Functional Implementation Teams	• Project Portal / Collaboration Tool

Source: Aberdeen Group, July 2007

High Tech Manufacturer

"Initially, the engineers were quite skeptical and did not want to change to the new system. Now, they don't know how they ever got along without it. The tool is fairly simple to use and gives them control over their parts and BOMs. We have extended the integrations to other systems, so our PLM system is the single source of truth."
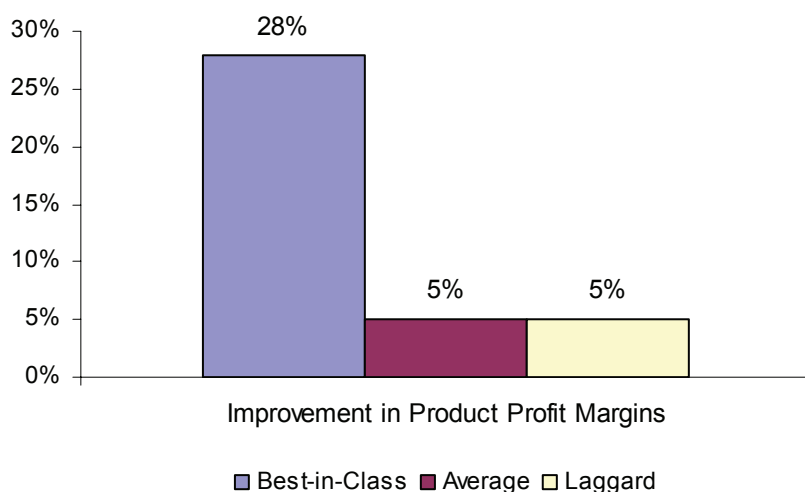
-Worldwide Documentation Systems Manager

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Better PLM Implementation, Better Profitability

The most important measure of success for a PLM implementation is in the resulting profitability of the company. As past benchmarks have shown, PLM solutions provide bottom-line results. What is clear from this particular benchmark is that those companies that implement the solution well are receiving more than their fair share of the benefits (Figure 1). Best-in-Class imlementations are resulting in over five times greater improvement in product profit margins.

Industrial Equipment

"We clearly see benefits, which translate in reduced engineering content (hours) in our products released into our production. The hard savings only became visible after full roll-out, before that the impact was only soft (less mistakes, easy re-use) and limited."

-Manager

Figure 1: Best-in-Class Gain Greater Profitability Improvements

Improvement in Product Profit Margins

■ Best-in-Class ■ Average □ Laggard

Source: AberdeenGroup July 2007

Aberdeen Insights – Strategy

There are many pressures that lead companies to implement PLM, including growth-oriented goals such as improving innovation or improving time to market, and cost-oriented goals such as improving efficiency. In addition, many companies have simply hit the wall in managing the complications that result from outsourced manufacturing, global design, and the increased complexity of today's products. In many instances, companies interviewed for this report simply stated "it was a necessity."

The actions taken to address these pressures, such as improving new product development performance, improving engineering efficiency, and expanding product development processes outside of Engineering – are relatively similar across the performance framework.

Nonetheless, many companies still lack a strategy for recognizing the value that PLM can offer. They know they want to improve their product innovation, product development, and engineering performance but struggle with the best way to transform their business. The benefits are available and compelling. The difference in achieving this value is how companies went about implementing their PLM solutions.

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Chapter Two:
Benchmarking Requirements for Success

Competitive Assessment

To analyze the approaches that lead to enhanced value, respondents were classified into one of three categories – Laggard, Industry Average, or Best-in-Class — based on their performance in gaining value from PLM. Then, characteristics in five key aspects of their business: (1) business process; (2) organization; (3) knowledge management; (4) use of enabling technology; and (5) performance management were analyzed. This analysis was compared to Average and Laggard performers, and the most differentiated approaches are highlighted below to illustrate what leading companies are doing differently from the rest (Table 3). For more information on Aberdeen's Competitive Framework, see Table 6 in Appendix A.

Fast Facts

√ Companies with a firm future state vision and incremental approach are over 3 times more likely to achieve Best-in-Class performance

√ Best-in-Class companies achieve twice the ROI on their initial PLM projects, and 2.5 times greater ROI for subsequent PLM extensions

Table 3: Competitive Framework

Characteristics	Laggard	Industry Average	Best-in-Class
Process Characteristics			
Conference Room Pilot	11%	25%	42%
Executive Goal-Setting / Workshop	26%	56%	65%
Pilot Implementation before Rollout	28%	54%	60%
Formal Change Management / Training Program	37%	51%	58%
Organizational Characteristics			
Cross-Functional Implementation Teams	63%	61%	85%
Executive Sponsor	58%	56%	74%
Knowledge Management Characteristics			
Lessons Learned / Captured / Reused	18%	49%	56%
Benchmarks / References Reviewed	28%	47%	61%
Requirements Gathered across Enterprise	38%	52%	58%
Performance Management Characteristics			
PLM Vision tied clearly to Business Strategy	17%	44%	55%
Formally Manage Implementation with Performance Metrics	38%	38%	56%
Enabling Technology Characteristics			
Project Portal / Collaboration Tool	26%	28%	50%

Source: Aberdeen Group, July 2007

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Process and Organizational Capabilities

These process, organizational, and knowledge management characteristics can be used to form a profile of the companies that are garnering the most value from their PLM solutions. These companies share common practices in three aspects of their PLM approaches:

- A firm vision and strategy for PLM

- A "PLM Program" approach to implementing PLM

- PLM implementation is viewed as a business transformation as opposed to a technology installation
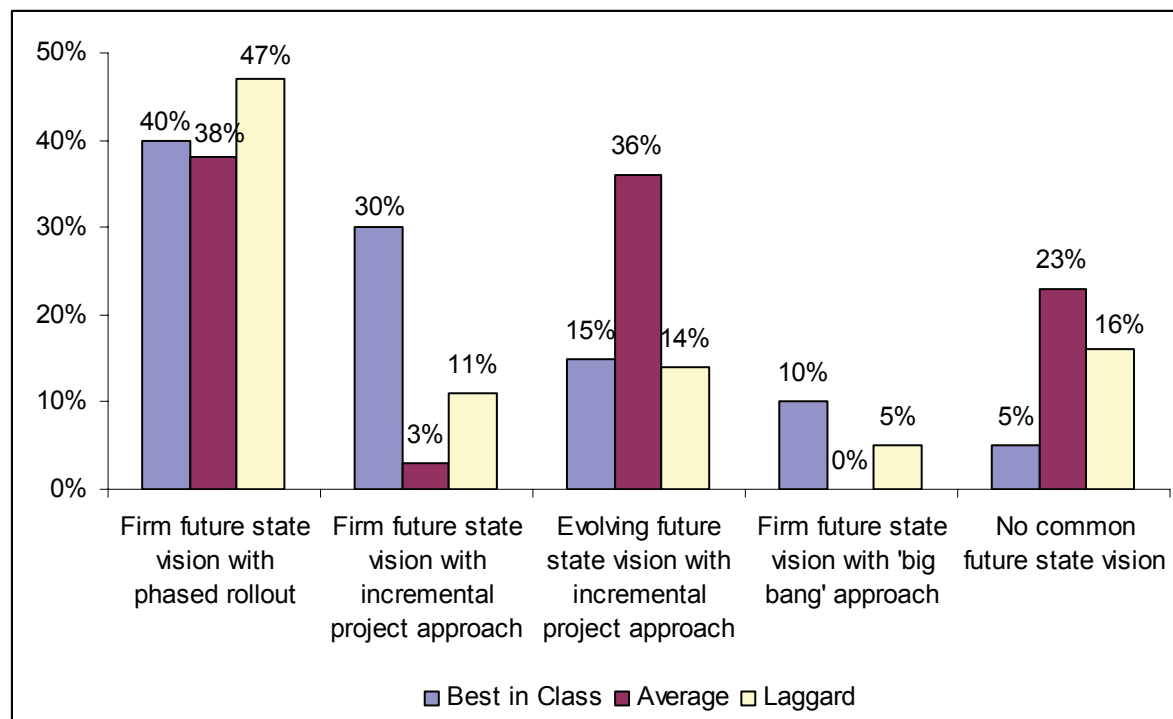
The PLM Vision

Best-in-Class companies are more likely to have identified a future state that they want to achieve from PLM (Figure 2). While these companies may sequence their adoption in a phased or incremental approach (See PLM Program, below), the common ground between these approaches is a strategic direction for the PLM implementation and a clear statement of what they are trying to achieve, with a recognition that the value cannot be achieved in a single effort.

> Mayfran
>
> "The implementation process started with a belief of the product champion, the manager Engineering at that time. He kept pushing the capabilities to demonstrate the value of PLM to the general management. Through the pilot projects more engineers saw the benefits and also wanted to work with PLM."
>
> -Wiel Kroonen, C-Level Executive

Figure 2: Long Term Vision of PLM

Source: Aberdeen Group, July 2007

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The visioning process is often supported by an executive workshop or goal-setting exercise. As seen in Table 3 above, Best-in-Class companies are 2.5 times as likely as Laggards (56% vs. 16%) to execute such an event. These planning events ensure that the PLM implementation is dedicated to improving strategic business value. In fact, Best-in-Class companies are 3.2 times as likely to tie their PLM vision clearly to the business strategy – ensuring alignment between company objectives and the deployment of the PLM technology that can help achieve them. Further, despite the significant ROI that can be achieved from PLM implementations, 40% of Best-in-Class companies justify their PLM program based on strategy as opposed to a business case, as opposed to 11% of Laggards. This is not to say that a business case is unimportant, as 44% of all companies – including 50% of the Best-in-Class – do develop a business case prior to approval.

The PLM Program

As seen in Figure 2, few companies are attempting to implement PLM across their entire organizations at one time, in a "big bang" approach. This is not a surprise given the large scope of PLM solutions. Many companies are either deploying a phased rollout or an incremental approach. Phased rollout is a program with pre-defined functionality that is phased in over time by location or by function, while an incremental project approach differs in that each project is identified and justified based on individual need, as opposed to being predefined in a phased approach.

More Best-in-Class companies are adopting an incremental approach than a phased approach (45% versus 40%). When viewing the incremental approach coupled with the Best-in-Class characteristic of a firm future state, the results become more dramatic. Few companies that possess a firm future state vision and have undertaken an incremental approach are showing anything other than Best-in-Class performance, indicating that this combination is a more predictable path to PLM value.

On the other hand, companies of all performance classes are more likely to utilize a phased approach. A clear indicator of the value of a phased approach is the number of additional implementations or extensions that the Best-in-Class have taken on (Table 4).

Table 4: Percent of Companies with Initial and Subsequent PLM Implementations

Completed Implementation of PLM Capabilities	Laggard	Industry Average	Best-in-Class
Initial Implementation of PLM Capabilities	61%	75%	85%
Subsequent Implementation of Additional PLM Capabilities	58%	54%	84%
Multiple Additional Implementations of PLM Capabilities	34%	42%	69%

Source: Aberdeen Group, July 2007

> **Computer Equipment Manufacturer**
>
> "We have included new integrations and are currently implementing a product governance and compliance module to help us manage our RoHS compliance. We have extended the integrations to other systems, so our PLM system is source of truth.
>
> We continue to look at ways to simplify and add functionality."
>
> -Engineering Director

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These top-performing companies have implemented more PLM overall, but
also report more subsequent implementations than Average or Laggard
companies, (69% with multiple implementations in the last five years,
compared to just 42% of Average, 32% of Laggard). By extending their base
PLM implementation, they have gained even greater value.

More importantly, they have recognized greater ROI from their PLM
implementations (Figure 3). Best-in-Class companies achieve twice the ROI
on their initial PLM projects, and 2.5 times greater ROI for subsequent PLM
extensions. The Best-in-Class also receive more value from subsequent
implementations as a ratio to their initial implementations – highlighting that
they are able to leverage their initial investments. Average companies, on
the other hand, receive about the same value in subsequent
implementations as the initial one, indicating that they are not able to
leverage past implementations. Laggard companies demonstrate even worse
ROI, suggesting that they are either having to re-implement their initial
implementation or have competing capabilities.

Figure 3: Best-in-Class get Greater ROI from PLM
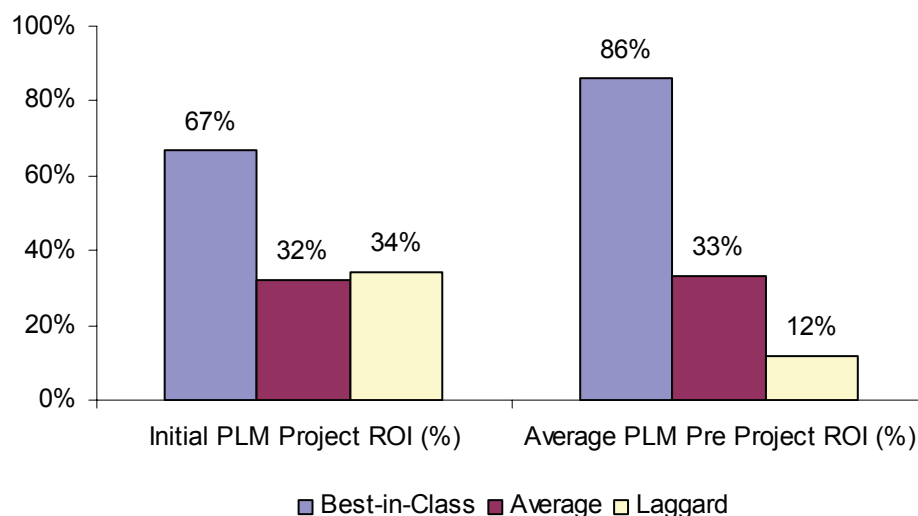
Source: AberdeenGroup July 2007

Automotive Supplier

"If you don't have management
support - forget it. No matter how
hard you try, without management
nothing will get done. In the past
four to five years, we have been
very slow to implement because we
had little management support.
Get it early, get it in writing, and get
as many on board as possible."

-CAD Manager

Executing the PLM Program - Transforming the Business

Best-in-Class companies approach their PLM implementations as business
transformations, as opposed to technology installations. As the scope of
PLM has expanded from design tools to include cross-departmental and
collaborative business processes, the need to address change itself has
grown. Technology can't help unless people are prepared to run the
business in a better way. The Best-in-Class recognize the need to address
change strategically.

For example, these companies (as seen in Table 3) are almost four times as
likely as Laggards to run conference room pilots. This process allows

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companies to execute new processes and technologies in a safe environment, where they can try different approaches to develop and automate new practices. They are further twice as likely as Laggards to execute a pilot implementation to prove the value of a solution and develop successful examples of how it can help.

In addition, Best-in-Class companies leverage best practices from past enterprise application adoptions. Processes including the creation of cross-functional teams, formal change management / training programs, identifying an executive sponsor, and using proven implementation methodologies are all more common in Best-in-Class companies. These companies also train people on the PLM philosophies deployed (60% in Best-in-Class vs. 43% in all others), recognizing that when people are educated on concepts, adoption becomes an investment towards greater value rather than a mandated function. They are further training people on pre-determined roles (65% vs. 37%), so that individuals are aware of their responsibilities and the part they play in achieving the PLM vision.

Technology Enablers

Many tools are commonly used to support PLM implementations. Project management tools and meeting collaboration tools are in use by over one half of the Best-in-Class, but also by Average and Laggard companies. These tools are helpful in executing the PLM Program, but don't appear to be providing any significant differentiation as they are commonly used by many. Some companies, including 47% of Best-in-Class performers, are using the PLM tool itself to help manage the implementation. The most differentiating technologies in use to support PLM implementations (as seen in Table 3) are project portals and project collaboration tools. These tools help to enable the cross-departmental team as well as allow companies to capture and share best practices.

High Tech Manufacturer

"The main benefit in my mind is that we were able to absorb explosive growth with the same system. The human resources used today to run the system are same as they were in 1999. Implementing the cost management module reduced the labor effort by 60%. PLM is a sustainable and scaleable application."

-PLM Systems Administrator

Aberdeen Insights – Capabilities

Putting PLM practices and solutions into action requires more than simply technology. For any solution to provide a business benefit, it must allow companies to change the way they do business so that they are more competitive, reduce business risk, increase revenue, decrease cost, or in some other way recognize tangible business advantage. The Best-in-Class companies recognize this, and therefore approach their PLM implementations strategically. These companies focus their adoption of PLM as a business transformation, and recognize the higher level of benefits – and challenges – that such a transformation offers.

To address this, leading companies are adopting a strong leadership vision for PLM. This vision, designed to support the business strategy, provides a guiding light to the enterprise as they embark on their journey to the value of PLM. They are taking this journey one leg at a time, but know the final destination that they want to reach. Based on that, they are achieving better ROI from their PLM projects – and increasing ROI from subsequent projects. Further, the incremental approach of the PLM Program helps companies get started on PLM, and provides them with a sustainable, extendable path to business value.

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Chapter Three:
Required Actions

Whether a company is trying to adopt PLM for the first time, or move its PLM implementation performance from "Laggard" to "Industry Average," or "Industry Average" to "Best-in-Class," the following actions will help spur the necessary performance improvement

Laggard Steps to Success

- **Tie the PLM vision to the business strategy**, or develop a strategy if one does not exist. Conduct an executive workshop to develop a firm vision for future processes for product innovation, product development, and engineering that explicitly states the direction of the PLM strategy and how it supports the overall business strategy.

- **Adopt a PLM program approach** by translating the strategy into a series of related projects. Shift from a phased rollout strategy to one that is based on smaller, incremental projects.

- **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 pilot implementations.

- **Enable the PLM program by capturing and reusing knowledge**, and implement a project portal / collaboration tool to share information and coordinate activities across the project team. Gain practical experience by using the PLM tool itself to enable the project.

Industry Norm Steps to Success

- **Firm up the PLM vision and tie it to the business strategy**, or develop a strategy if one does not exist. Conduct an executive workshop to develop a firm vision for the future processes for product innovation, product development, and engineering that explicitly states the direction of the PLM strategy and how it ties to the overall business strategy. Even if an executive workshop was conducted in the past, repeat the process to develop a more firm direction for the enterprise.

- **Adopt a PLM program approach** by translating the PLM strategy into a series of related projects, or adjust your PLM program to your revised, firm strategy if you are already rolling out PLM with smaller, incremental projects.

Communications Industry

"Started with a small Access based PLM system in 1997. This was replaced with an enterprise PLM system in 1999, we are currently implementing our third upgrade.

Added a product cost management module in 2003 and a quality module in 2005. The system has expanded 10 fold (users and use) since 1999 and we have more users outside of engineering than in engineering. Pretty good for an 'Engineering' application."

-PLM Systems Administrator

High Tech Manufacturer

"We are starting with the core product data record (BOM and attributes), and we have a 3 year roadmap of 12 different releases."

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- **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 a conference room pilot approach for new functionality in addition to piloting implementations.

- **Enable the PLM program by capturing and reusing knowledge** if you are not already doing so, and implement a project portal / collaboration tool to share information and coordinate activities across the project team. Gain practical experience by using the PLM tool itself to enable the project.

Best-in-Class Steps to Success

- **Adopt a PLM program approach** by adjusting your PLM program to roll out PLM with smaller, incremental projects if you are currently taking a phased approach.

- **Continue to focus on business transformation as opposed to adoption of technology**. Ensure that your business is taking advantage of best practices in implementing enterprise applications, particularly the adoption of formal change management and training programs. Adopt a conference room pilot approach for new functionality in addition to piloting implementations, if you have not already done so.

- **Implement a project portal / collaboration tool** to share information and coordinate activities across the project team (if you are not already doing so). Gain practical experience by using the PLM tool itself to enable the project.

Aberdeen Insights – Summary

The bottom line – as past benchmarks have shown – is that PLM provides significant bottom-line results. What is clear from this benchmark is that those companies that implement PLM well are receiving more than their fair share of the benefits.

Although a 5% improvement in profit margins and healthy ROI is a tremendous boost to the bottom-line of most companies, more value can be gained from PLM by:

- Developing a firm vision and strategy for PLM that is tied to the business strategy

- Adopting a "PLM Program" approach to implementing PLM

- Approaching the PLM implementation as a business transformation as opposed to a technology installation, and

- Enabling the PLM implementation with knowledge sharing and collaboration capabilities.

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Appendix A:
Research Methodology

Between June and July 2007, Aberdeen Group examined the PLM implementation strategies, the experiences, and intentions of more than 185 enterprises. Responding executives completed an online survey that included questions designed to determine the following:

- The pressures and subsequent strategies driving the focus of resources on PLM implementation

- Current and planned approaches to implementing PLM

- The approaches that are providing the most value to PLM implementation initiatives

Aberdeen supplemented this online survey effort with telephone interviews with select survey respondents, gathering additional information.

The study aimed to identify successful strategies for PLM implementation and the processes that led to successful deployment by Best-in-Class companies to provide a framework by which readers could assess their own implementation strategies.

Responding enterprises included the following:

- *Job title/function:* The research sample included respondents with the following job titles: Engineering (36%); Information Technology (29%); Business Process Management (13%); in addition to Logistics/Supply Chain, Manufacturing, Sales and Marketing, Procurement, and others.

- *Industry:* The research sample included respondents from a number of different industries including: Automotive (19%), Industrial Equipment (19%). Aerospace and Defense (14%), Medical Devices (14%) and other industries including Consumer Packaged Goods, Food and Beverage, Consumer Electronics, Computers, and Consumer Durable Goods.

- *Geography:* The majority of respondents (69%) were from North America and Europe (21%). Remaining respondents were from the Asia-Pacific region (9%), and Middle East or Africa (1%).

- *Company size:* About 43% of respondents were from large enterprises (annual revenues above US$1 billion); 39% were from midsize enterprises (annual revenues between $50 million and $1 billion); and 18% of respondents were from small businesses (annual revenues of $50 million or less).

Solution providers recognized as sponsors of this report were solicited after the fact and had no substantive influence on the direction of the Implementing PLM Benchmark Report. Their sponsorship has made it possible for Aberdeen Group to make these findings available to readers at no charge.

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Table 5: PACE Framework

PACE Key

Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:

Pressures — external forces that impact an organization's market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)

Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product/service strategy, target markets, financial strategy, go-to-market, and sales strategy)

Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products/services, ecosystem partners, financing)

Enablers — the key functionality of technology solutions required to support the organization's enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)

Source: Aberdeen Group, July 2007

Table 6: Maturity Framework

Maturity Framework Key

The Aberdeen Maturity Framework defines enterprises as falling into one of the following three levels of performance:

Best-in-Class (20%) — PLM implementation practices that are the best currently being employed and significantly superior to the industry norm, and result in the top industry performance.

Industry norm (50%) — PLM implementation practices that represent the average or norm, and result in average industry performance.

Laggards (30%) — PLM implementation practices that are significantly behind the average of the industry, and result in below average performance

In the following categories:

Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?

Organization — How is your company currently organized to manage and optimize this particular process?

Knowledge — What visibility do you have into key data and intelligence required to manage this process?

Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?

Performance — What do you measure? How frequently? What's your actual performance?

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Source: Aberdeen Group, July 2007

**Table 7: Relationship between PACE and
Competitive Framework**

PACE and Competitive Framework How They Interact
Aberdeen research indicates that companies that identify the most impactful pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute.

Source: Aberdeen Group, July 2007

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Appendix B:
Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report include:

- *The Configuration Management Report: Formalizing and Extending CM to Drive Quality* (February 2007)

- *The Design Reuse Benchmark Report: Seizing the Opportunity to Shorten Product Development* (February 2007)

- *The Digital Product Development Benchmark Report: The Transition to Paperless Process* (March 2007)

- *The Global Product Design Benchmark Report* (December 2005)

- *Lean Product Development Benchmark Report* (May 2007)

- *Next-Generation Product Documentation: Getting Past the "Throw It over the Wall" Approach* (December 200)

- *Nimble Product Design: CAD/CAM/CAE for the Small to Mid-Sized Enterprise* (June 2007)

- *PLM for Small to Medium-Sized Manufacturers Benchmark Report* (March 2006)

- *The Product Innovation Agenda* (September 2005)

- *Product Lifecycle Collaboration Benchmark Report: The Product Profitability "X Factor"?* (June 2006)

- *Profitable Product Development for SME* (March 2007)

- *Publishing Technical Communications in a Multi-Channel World* (May 2007)

- *The Simulation-Driven Design Benchmark Report: Getting It Right the First Time* (October 2006)

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.

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