Product development firms are facing greater challenges than ever before, striving to drive innovation and improve new product success in today’s increasingly competitive and global marketplace.

To deliver growth, companies must bring products to market faster and at a lower cost with fewer resources and more regulations.

When coupled with the frightening 75% to 85% failure rates of new product introductions that vary by industry, these factors create a daunting environment for innovation.
To support this fast-paced product development environment and improve new product introduction success rates, companies must be able to effectively synchronize, manage, and share product data across the enterprise and the supply chain.

This means deploying world-class data quality and data management processes and solutions such as Product Information Management (PIM) and Product Lifecycle Management (PLM).

Companies have specific business challenges that can be solved by PIM, PLM, or a combination of these tools. While it may seem daunting to differentiate between these technologies and their acronyms, companies can achieve clarity by defining PIM and PLM, examining how these tools can be used to solve real business problems, and understanding how to get started.
Defining PLM & PIM

Despite confusing and often conflicting descriptions of PIM & PLM, the solutions are in fact complementary.

**Product Lifecycle Management** is “a software-enabled strategy to improve processes to conceptualize, design, develop, and manage products - and drive higher levels of product profitability.”

**Product Information Management** “…focuses on management and synchronization of product information from multiple data sources.”

– Tech-Clarity [tech-clarity.com]
Defining Product Lifecycle Management:

PLM addresses the entire lifecycle of a product and the associated information from conception through design and development, including release to manufacturing, after-sales service, disposal and obsolescence.

Primary Functions

- A PLM strategy integrates people, data, processes and business systems to provide a product information methodology for the company and its extended enterprise.

- PLM technology supports this strategy, acting as the authoring system for design elements of product data. It is also where most of the engineering management activities and changes are executed and integrated to other systems.

Associated Technologies

- Product data management (PDM) is a subset of PLM, focusing on managing product data.

- Also contained within PLM technologies are aspects of product portfolio management (PPM) as well as project and pipeline management capabilities, product quality management, product cost management and design collaboration tools.
Understanding PIM & PLM:
Unique, Yet Complementary, Solutions

Defining Product Information Management:

“PIM focuses on management and synchronization of product information from multiple data sources.” PIM is a subset of a broader concept of enterprise data management known as Master Data Management (MDM). PIM is a component of MDM that deals with product-related information.

Primary Functions

- **PIM** gathers, manipulates, cleanses, synchronizes and distributes product data from multiple systems into a consolidated data source.
- **PIM** publishes this consolidated data source to outside entities.

Associated Technologies

- **MDM** is a broad set of practices, processes and enabling technologies to build a single, accurate and authoritative source of truth for all of the data used to run an enterprise, of which PIM is a subset.
- **MDM** solutions typically include source identification, data collection, data transformation and other data utilization tools.
Comparing the Roles of **PIM** and **PLM**

PLM and PIM have distinct purposes and solve unique business problems. While both solutions are important, valuable initiatives, companies should consider the role of the systems when deciding where to start.

Based on the previous definitions, PLM is used for the processes involved with developing and releasing products, actively authoring and managing product data, while PIM is used to consolidate, cleanse and share complete product information, acting as a repository of product and other data. The basic purposes of each solution are shown in **Figure 1**.
Figure 1: Basic purposes of PLM & PIM

**PLM** – Actively Authors and Manages Product Data
- Manage product requirements
- Analyze product portfolios
- Execute product development projects
- Manage engineering changes
- Support design collaboration
- Design and engineer products
- Manage product compliance

**PIM** – Consolidates Product and Other Data
- Collect and consolidate
- Cleanse and rationalize
- Augment and extend
- Publish to web and other systems/tools, including catalogs, portals, label generation tools and printers
- Support cross-functional reporting
- Aggregate data (e.g. Demand, BoMs, etc)
PLM focuses primarily on the design or “create” side of product data, while PIM has more of a “customer” focus.

PIM applies the concept of shared data across an enterprise — both internal and external — with clear data administration, ownership and system of record methodologies. Where PLM captures core product data, PIM combines it with marketing, customer and relevant financial data of a product. PIM also provides a consolidated location to store product information and extend it to internal and external resources.

Typical internal PLM users include anyone involved with creating the technical product record, including R&D, engineering, regulatory, product management and manufacturing teams. External users of PLM data include design and supply chain partners as well as outsourced manufacturing.

Typical internal PIM users include marketing, sales and support commercialization teams that use the commercial product record in client-facing activities. External PIM users include end user customers, distributors and resellers.
### Figure 2: Comparing the roles of PLM/PDM & PIM/MDM

<table>
<thead>
<tr>
<th>Process / Application</th>
<th>Typical Focus</th>
<th>Typical Internal Users</th>
<th>Typical External Users</th>
<th>Use Cases</th>
</tr>
</thead>
</table>
| PLM/PDM               | Technical product record for create side of business | R&D, engineering, regulatory, configuration management, product management, manufacturing | Design partners, supply chain partners, outsourced manufacturing | - Product design management  
- BoM / formula management  
- Requirements & specification management  
- Packaging design & development |
| MDM/PLM               | Commercial product record for customer side of business | Marketing, sales, support commercialization and customer information aggregation | End customers, distributors, resellers | - Internal reporting  
- eCommerce (portals for customers)  
- Customer catalogs  
- Commercialization & service information  
- Integration among multiple ERPs & PLMs |
How PLM & PIM Can Work Together: Practical Use Cases

The power of PIM and PLM can be combined to solve product data quality and management challenges. By bringing these two strategies together companies can synchronize product data, gain a better view into the commercialization side of product development, and deliver improved business results.

Product Development and Change Data

Any company that develops new products or services and launches them into the market uses PLM capabilities and principles. The depth of PLM data and the level of process sophistication and automation vary widely, but the core principles of PLM remain the same. From paper-based to sophisticated PLM systems, all companies must capture data during the development of a product so that it can be manufactured, sold and serviced.

All product development companies must also be following PLM processes to capture and control product changes. In more advanced companies, suppliers and other third parties may even be directly involved in the management of product changes through inclusion in workflows and automated notifications. Product change information may be sent to other systems, such as Enterprise Resource Planning (ERP), Supply Chain Management (SCM) and others via automated integrations between systems.
These typical PLM use cases for capturing product data and managing the product change process might employ anything from manual, home-built tools through sophisticated software packages.

PIM can demonstrate its unique flexibility when companies have multiple PLM or other enterprise systems in use that need to share and use the same data.

**Aggregation and Synchronization Hub**

Many companies have grown through acquisition and oftentimes have multiple systems performing core functions within the enterprise. They may have multiple ERP, PLM and other systems that contain data in different formats. PIM can aggregate, consolidate and harmonize this product data into a single view, ensuring a consistent format. PIM’s ability to help harmonize data across multiple systems is tremendously important to managing global, dispersed businesses.

**Information Distribution Hub**

From this single view of product data, PIM can serve as a data distribution hub, providing a rich level of information to internal and external resources. This information includes reports for both internal management of the business (such as portfolio management and supply/spend aggregation reports) and for external-facing information.
Figure 3:
PIM as a Data Aggregation & Distribution Hub
# Getting Started

Since PIM and PLM provide unique value and are complementary, many organizations struggle to determine an appropriate starting point. It’s important to view these projects as unique value-add initiatives.

<table>
<thead>
<tr>
<th>Organizations should start with PLM if the most critical innovation and business development challenges include:</th>
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<tbody>
<tr>
<td>Generating better new product ideas</td>
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<tr>
<td>Managing the pipeline</td>
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<tr>
<td>Designing more efficiently</td>
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<tr>
<td>Collaborating across functional and company boundaries</td>
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<tr>
<td>Significantly reducing the cost of regulatory compliance</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizations should start with PIM if the most critical innovation and business development challenges include:</th>
</tr>
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<tbody>
<tr>
<td>Creating and/or improving customer-facing information</td>
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<tr>
<td>Generating consolidated views of demand and supply data</td>
</tr>
<tr>
<td>Reducing cost and complexity of manual or home-grown tools for sharing data with internal and external consumers</td>
</tr>
<tr>
<td>Integrating multiple PLM and/or ERP systems</td>
</tr>
<tr>
<td>Developing an eCommerce portal</td>
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</table>
Conclusion

The abundance of three-letter acronyms can confuse organizations into buying and implementing the wrong solution to satisfy their business needs.

The first step in defining a starting point is understanding that both PLM and PIM can provide significant value, but have different areas of focus and solve different business problems.

As with any enterprise software initiative, the best chance for success goes to companies that take the following actions:

1. **Develop a firm vision** and strategy for PLM or PIM that identifies a roadmap and goals, and ties that vision back to the overall business strategy.
2. **Adopt a program approach** to implementing PLM or PIM, addressing the implementation as a series of related projects.
3. **Approach the 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.

Organizations should develop a long-term strategy and initial roadmap centered on solving a single, high-impact business problem, and use this as the foundation on which to build a comprehensive solution.
Where to Start?
Visit kalypso.com/PIM for more information.