

# Selecting a PLM System to Improve Product Development Performance for Small and Medium Sized Manufacturing Businesses

A whitepaper by TechniCom and Tech-Clarity

**Executive Summary Only: The complete paper is available at [www.ptc.com](http://www.ptc.com)**

Published: September, 2008

<p>TechniCom Group LLC 179-9 RTE 46W #175 Rockaway, NJ 07866 (973) 794-3356 <a href="mailto:rayk@technicom.com">rayk@technicom.com</a>  <a href="http://www.technicom.com">www.technicom.com</a> <a href="http://www.cad-portal.com">www.cad-portal.com</a></p>	<p>Tech-Clarity, Inc. 2420 Martingale Road, Suite 100 Media, PA 19063 (610) 565-6302 <a href="mailto:jim.brown@tech-clarity.com">jim.brown@tech-clarity.com</a>  <a href="http://www.tech-clarity.com">www.tech-clarity.com</a></p>
---	---

## **Contents (of the complete paper)**

Introduction

Executive Summary

1. Defining a PLM system
  2. Determine the Need for a New or Expanded PLM System
  3. Organize the Evaluation
  4. Determine Management Requirements
  5. Determine Functional Requirements
  6. Determine Technical Requirements
  7. Determine Integration Requirements
  8. Evaluate a Potential Vendor Partner
  9. What a new system should include and what it should cost
  10. Select a System and Vendor Partner
  11. Implement and Monitor the Strategy
  12. About the Authors
- Appendix: Testing and evaluating how proposed systems meet the requirements

## Introduction

This paper is a follow on and update TechniCom's previous paper published in February 2005. In that paper we discussed "Selecting a CAD/CAM/CAE/PDM (CCCP) system" and noted that selecting such a system is no easy task. Today, almost three and one half years later it is still no easy task to select a comprehensive engineering and product development system, yet it is crucial to the success of ANY business, be it small or large.

Our goal with this paper is to help people make better decisions when selecting software solutions to improve product development and engineering performance. This paper can provide you with a logical and orderly approach, which, if followed, will allow you to select the proper CAD/CAM/CAE/PLM system for your company. Furthermore, in this paper, different than many others we have seen, we provide guidance for mid-sized businesses rather than large-scale enterprises.

In many areas of this paper we stress the importance of making strategic decisions, both short-term and long-term. Readers should keep this in mind. Any decision making tool, be it for product development or business strategy, is only as good as long as it fits the company strategy and directions.

While this paper is sponsored (partially paid for) by PTC, the reason we agreed to write it is that PTC assured us that it would be completely unbiased -- and they have upheld this agreement. Why would they do so? Because they feel comfortable that small and medium business customers evaluating such systems will often decide upon their offerings, providing that customers have a rational approach to making such a decision. This paper provides such a rational approach. PTC and the authors know that no single solution is right for all customers.

## Executive Summary

Today, it is widely realized that a comprehensive engineering and product development system can be a highly contributing factor to a company's success. Such systems are commonly called PLM (or product lifecycle management) systems.

Successful product development in today's global market requires a comprehensive engineering and product development system. PLM systems provide the foundation for companies to compete in an innovation environment demanding rapid time to market, multi-company collaboration, high product quality, and aggressive product cost. Selecting a PLM system for any business is a challenge. The systems are far more extensive than standalone CAD and Product Data Management (PDM) solutions, reaching into many aspects of the business and across multiple organizations. For smaller companies, selecting the right solution can be even greater due to limited resources available for the evaluation process. A structured, well thought out process is critical to these smaller businesses.

Instead, in many cases, selecting a PLM system tends to be done at too low a level, with poor consideration of company strategic issues, with little understanding of the product development environment and any proposed improvement, and with little idea of expected ROI or metrics. Is this a problem? Yes! If such a system is integral to your company's future product development, then a careful rational decision must be made that does its utmost to insure that such a system meets both your current and future needs.

To address the challenge of selecting a PLM system, TechniCom and Tech-Clarity describe a rational, well-organized approach to a software selection process. Selection starts with the business objectives in mind, starting with a determination of whether a new system is warranted or not. The approach encourages a business case that carefully ties the software

strategy to the strategy of the business as a whole. Without this business alignment, the selection process will likely be focused strictly on the technical merits of the software system and disregard evaluation criteria that are critical to the successful implementation (and return on investment) of the PLM solution.

After determining the need and building the business case for the new solution, the authors recommend a number of steps to organize and conduct the evaluation process. Assembling the proper team for the selection is an important step, including the development of a cross-functional team and an executive steering committee to drive the process. This team will develop and select a vendor partner and a solution based on: Management Requirements, Functional Requirements, Technical Requirements, and Integration Requirements

The paper further identifies a process to evaluate potential vendor partners, including the importance of the vendors' long-term strategy in addition to current offerings. The evaluation should include an assessment of the vendor's ability to support the company during the implementation and beyond, including an understanding of the ecosystem of partners and solutions that are aligned with the vendor. Finally, the paper identifies a number of potential solution providers and offers some advice on how much a company should plan to spend on a solution of this kind to help ensure a realistic cost for the business case.

Selecting a PLM system is an important process, and one that can provide a tremendous boost to the business if done correctly. The steps in this paper are designed to ensure that the system selected can be readily implemented to achieve business value, and tries to eliminate misperceptions and poor evaluations that could lead to late surprises in the implementation or use of the solution. By following these steps, companies can be comfortable that they will be able to achieve the top-line growth and product cost reductions they are seeking from their PLM solution.

The Appendix describes a method to objectively distinguish between competing systems, proven by our experience to eliminate subjective evaluations. The described matrix scoring methodology weights each requirement by priority and the vendor compliance. The weights depend upon your industry and where your company fits in the industry value chain.

In summary, we suggest an approach to the selection process that builds on our logical and successful recommendations in the past. To wit:

- Determine the need
- Assess where you should be
- Organize the evaluation
- Determine management requirements
- Determine functional requirements
- Determine technical requirements
- Determine integration requirements
- Evaluate a potential vendor partner
- Select a system and vendor partner
- Implement and monitor the strategy

These are explained in more detail in the complete paper.

## About the Authors

### Raymond Kurland

Raymond Kurland is president of TechniCom Group LLC and its principal consultant and editor. His firm, founded in 1989, specializes in analyzing MCAD and PLM systems and has

been involved in reviewing and comparing such software since 1987. Ray frequently consults with both vendors and users. Ray has degrees in Engineering from Rutgers University and from NYU. His career included stints with Bell Telephone Laboratories, IBM, and Dassault Systemes. Ray can be reached at [rayk@technicom.com](mailto:rayk@technicom.com). For more information about TechniCom Group and other software reviews please visit [www.cad-portal.com](http://www.cad-portal.com).

### **Jim Brown**

Jim Brown is president of Tech-Clarity, Inc. and has almost 20 years of experience in application software, management consulting and research focused on the manufacturing industries. Jim is a recognized expert in software solutions for manufacturers and has broad knowledge of applying Product Lifecycle Management (PLM), Supply Chain Management (SCM), ERP and other enterprise applications to improve business performance. Jim began his professional experience in manufacturing engineering and software systems at General Electric before joining Andersen Consulting (Accenture) and subsequently served as an executive for software companies specializing in PLM and Manufacturing solutions. Jim can be reached at [jim.brown@tech-clarity.com](mailto:jim.brown@tech-clarity.com).