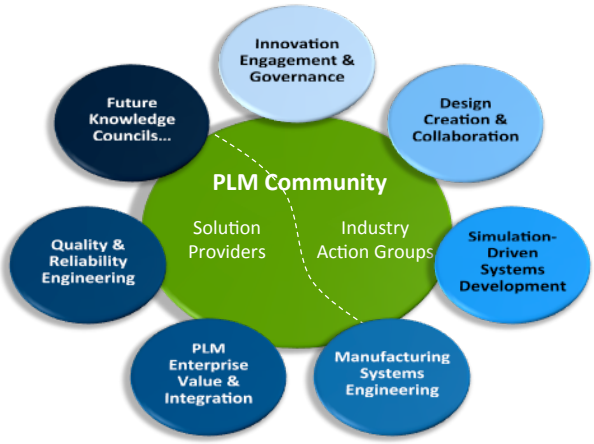
PLM Enterprise Value & Integration Knowledge Council

Integrating PLM into the Product Lifecycle

Individual Membership

CIMdata's Product Lifecycle Management (PLM) Knowledge Councils conduct in-depth research for both industrial organizations and PLM solution providers. They emphasize strategic as well as practical, tactical options for companies to follow as they further adopt PLM. The research defines best practices for topics of interest to industrial companies who use PLM to support their ongoing product development business strategies and for PLM solution providers interested in understanding and defining their PLM strategies and directions, and associated offerings.



CIMdata currently offers six PLM Knowledge Councils, as shown in the figure above. Council topics are developed from CIMdata's PLM Community as technology evolves and industry requirements dictate. Additional information related to CIMdata's PLM Community is located at www.CIMdata.com.

PLM Enterprise Value & Integration Knowledge Council

Value measurement of PLM investments is an essential aspect to successful PLM deployments. Stakeholders within an organization need to understand how investments in their PLM solution are performing and what future investments may be required to maintain and improve overall performance. Metrics and tools to help quantify the current performance of PLM solutions and evaluate the Return On Investment (ROI) of potential investments provide information to executives so they can make appropriate future investment decisions.

The realization of the full benefits of using PLM in support of product lifecycle-related processes depends on how well PLM is integrated with product development data, processes, and tools. Integration is what allows the PLM strategy to have broad impacts across the product lifecycle. Without integration, PLM is just another system that must be served by users inputting data so reports can be generated to support reactive management. Data that is input in this way is may be haphazardly done, and is likely to be duplicated and not managed over multiple locations. To support the full product lifecycle, data must be captured from its source, and processes must be managed end to end. This means that the integration to both desktop authoring and viewing tools, as well as other enterprise systems such as ERP and MES, are within scope of this Council. In many enterprises, data is entered more than once and often communicated on an inconsistent basis, causing discrepancies that impact product cost, quality, and delivery. Since each enterprise is unique and has unique processes, software tailoring, or even customization, process definition and discipline are required to successfully implement a fully integrated PLM environment.

The PLM Enterprise Value & Integration Knowledge Council (PEVI Council) gathers and benchmarks best practices for integrating data, processes, tools, and people across all business domains that have an impact on a company's products. This industry-wide effort focuses on the cross-domain collaboration necessary to integrate specialties to avoid fragmented product realization efforts. The Council identifies and prioritizes requirements and capabilities for PLM integration strategies, best practices, and enabling solutions.

PLM integration maturity models identify critical issues related to the integration, among other things, of desktop engineering software including MCAD, EDA, S&A, and MBSE applications; general business desktop applications including MS Office, email clients, and graphics applications; and enterprise solutions like ERP, MES, and CRM. These maturity models evaluate the maturity level of participating companies through a ranking approach applied to relevant

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criteria. Each maturity model investigates criteria applicable to PEVI; these are established collaboratively by members of the PEVI Council and evolve over time through active discussions and research.

PEVI Knowledge Council Member Deliverables

PLM Investment Sustainability Model

CIMdata's PEVI Knowledge Council has developed and released a model to measure PLM Investment Sustainability. A sustainable PLM solution (i.e., the software, processes, and support service) is one that is meeting the company's business needs now and will continue to well into the future via continuous and cost effective improvements rather than a series of discontinuous, high-intensity, and costly upgrade or enhancement events. The model evaluates a PLM solution across seventeen dimensions including reliability, maintainability, openness, and functionality.

The level of investment sustainability achievement measured in the model gives quantified indications of what elements of the solution are working well and what elements need improvements.

Knowledge council members get access to this model so they can employ it in their sales and customer support processes.

ERP Integration Maturity Model

The ERP integration maturity model focuses on issues involving the transformation and transfer of the as designed, engineering BOM (EBOM) to the manufacturing BOM (MBOM). Direct interviews with major industrial companies will be conducted and a survey undertaken within the CIMdata community that results in a formal report documenting issues and opportunities that are available to all PEVI Council members. The high-level topics covered in the maturity model include:

- As designed, EBOM definition and control
- MBOM definition and control
- How an EBOM is transformed into an MBOM, including automated methods
- Strategies used to integrate ERP and PLM
- Integration as a way to improve process flows between PLM and ERP
- How changes are managed when they are initiated in manufacturing
- Supporting tools and technology

Overall, this maturity model measures maturity levels for PLM to ERP integrations across multiple companies and industries. Based on CIMdata's consulting experience, we expect to see significant variation in the maturity rankings across nearly all the criteria. By leveraging best practices from our experience, in addition to what is learned from this research, companies are able to improve the efficiency of their businesses by improving the integration of data flow from product development to manufacturing, resulting in lower costs and shorter cycle times.

Upcoming Maturity Models

CIMdata expects to expand and improve the PLM Investment Sustainability Model and use data derived from it to publish reports and identify problems in this important area. Additional PLM integration maturity models are planned to help discover the critical issues and best practices related to integration of general desktop and engineering desktop tools, and other enterprise solutions including CRM, MES, and Product Portfolio Management.

PEVI Workshops

CIMdata offers workshops and conferences to encourage and enable leading industrial companies and solution providers to discuss the major issues in PLM integration. With solution providers actively engaged, these workshops provide an opportunity for them to identify critical technology gaps that impact industrial companies. In addition to helping solution providers understand real-world issues, industrial companies learn about integration strategies and technologies as well as better ways to use the integrations that are available today.

Ensuring that data is managed at its creation point, and fully leveraged by downstream processes throughout the extended enterprise, is key to lowering costs and improving productivity as well as quality. The low level of PLM maturity at many companies presents a significant problem in defining, deploying, and utilizing PLM integrations. Workshops on desktop integrations focus on the needs of data authors to support PLM technologies being used as a collaboration environment rather than just as a data repository. Workshops on enterprise software integration focus on ensuring data remains clear, concise, and valid throughout its lifecycle as it flows through software solutions.

A strategic, high-level review and maturity model of the product offerings from leading PLM solution providers as well as niche providers is continuously updated. Case studies provide guidance on strategies for the utilization of desktop and enterprise software integration concepts in the product development process, and for successful deployment to overcome organizational resistance to change. The PEVI Council also provides highly regarded forums for face-to-face discussions between industrial companies and solution providers.

Current PEVI Council Research

Under the guidance of Council members, the PLM Enterprise Value & Integration Knowledge Council's current research agenda is concentrating on the following critical issues:

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- ***Progress made and critical priorities for PLM Enterprise Value & Integration:*** A maturity model on industrial companies' capabilities, requirements, and benefits, updated with participation from leading companies in different industry segments. The critical requirements for users are clearly identified, prioritized, monitored, and continuously updated. Leading global industrial companies participate in CIMdata surveys to better understand the current context and priorities for integrating PLM with tools and processes that help to shape decisions more effectively. The approach concentrates on those priorities that can be achieved in six to twelve months. The results are published in reports available to members of the PEVI Council.
- ***PEVI framework capabilities:*** A strategic, high-level review and maturity model of the offerings by leading solution providers in desktop and enterprise solution integration. The desktop maturity models measure integration with functional areas including MCAD, ECAD, Simulation & Analysis, Test, and general office tools. The enterprise maturity models include PDM, ERP, MES, and CRM. The results from these models are applied in tracking the progress of the major product offerings from the leading solution providers.
- ***High-level requirements for desktop and enterprise application integration with PLM solutions:*** Each solution provider has a specific approach to integrating data and process management, and different categories of providers are currently extending their offerings in this domain. The PEVI Council analyzes these approaches and highlights key benefits for the users.

Knowledge Council Offerings[1]

2016 Events

- PLM Road Map™ 2016
- US Workshop

Publications

- Publications and reports related to the PEVI Council, including archived reports
- Maturity Model for PLM Integration
- PLM Investment Sustainability Model

PLM Presentations and Audio from PLM Road Map

All presentations from PLM Road Map events are provided.

[1] Selected presentations and audio from all of CIMdata's PLM Knowledge Council activities are available to PEVI Council members for download.

Membership Levels

Corporations who sponsor the Knowledge Council include both industrial companies and solution providers. Two levels of membership are offered: Enterprise and Individual.

Individual Membership

Individual members receive the following benefits:

- ***Knowledge Council Participation***—participation in Council surveys and discussions that help drive and shape the critical issues that are researched.
- ***Knowledge Council Registrations***—one free registration to CIMdata-organized Council events (e.g., Council workshops, webinars, briefings, and teleconferences). Additional registrations for the Council Workshops are available at a discount.
- ***One Named User***—the Named User is the designated contact who receives direct mailing of the Late-Breaking News and other publications, and who is authorized to contact the Knowledge Council leader. One named user receives all Council deliverables. Additional Named Users may be added for a fee.
- ***Corporate Use License***—members receive a worldwide license to distribute CIMdata-provided news and authorized publications throughout their organization for internal use. Named Users may forward or post these to colleagues within their company. This license does not imply nor include any right to perform language translations of CIMdata copyrighted materials as any translation must be performed, approved, and released by CIMdata.
- ***PLM Road Map™ Conference***—members are entitled to one registration to one CIMdata PLM Road Map conference held within the membership year. Currently, CIMdata is holding three such conferences (one A&D focused, one automotive, and one high-tech electronic). This registration is limited and may not be used by sales and marketing personnel. Additional registrations are available at a discount.
- ***PLM Late-Breaking News***—a daily newsletter that provides breaking news on PLM market activity, product announcements, industry events, financial investments, solution providers, and industrial users, along with CIMdata's latest commentaries providing insight and analysis.
- ***PLM Industry Summary***—a weekly compilation of news that is the most comprehensive and longest running digest focused exclusively on the PLM industry. Extensive archives of industry news and product announcements are maintained online at CIMdata.com.
- ***Market Update Webcasts***—quarterly members-only broadcasts provide CIMdata's insights on notable developments in the many technology market segments

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within PLM, along with updates on CIMdata research and member support resources.

- ***PLM Certificate Program Discounts***—members enjoy special rates of 10% off list price in addition to volume discounts for multiple participants in PLM Certificate Programs. The CIMdata PLM Certificate program is an assessment-based PLM training class for industrial companies, software providers, consulting services firms, value added resellers, and system integrators.
- ***Presentation at a CIMdata Event***—members may nominate a speaker or panelist in a CIMdata event or conference during the membership term, including CIMdata's PLM Road Map conferences and Knowledge Council workshops.
- ***Publications Discount***—members receive 15% off the list price when purchasing CIMdata research reports and publications not included in the Council membership.

About CIMdata

CIMdata, an 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 wide-ranging set of PLM-enabling technologies.

CIMdata works with both industrial organizations and solution 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 certificate 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.

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