CIMdata's 2015 PLM Road Map for Aerospace & Defense

Issues and Remedies for PLM Technology Obsolescence in Aerospace & Defense

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Strategic management consulting for competitive advantage in global markets

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We are dedicated to maximizing our clients' ability to design and deliver innovative products and services through the application of PLM.

PLM Technology Obsolescence

CIMdata's perspective on obsolescence and obsolescence management

CIMdata's view regarding PLM technology obsolescence is that it is a positive phenomenon because obsolescence occurs when new solutions are available that can improve business operations.

There are negative aspects associated with technology obsolescence. Those are 1) the cost of the technology refresh to obtain those improvements, and 2) the risk of data loss when migrating to a new solution.

Obsolescence management is the set of policies and practices by which these negative aspects are controlled and minimized.

PLM Technology Obsolescence

Goal of obsolescence management

The goal of PLM Obsolescence Management is the ability of an A&D company to upgrade and transition their PLM solution to new technologies incrementally over a period of several decades without loss of data and without incurring excessive cost and effort.

PLM Obsolescence Management Research*

Phase 1 project overview

Scope

Factors and methods impacting the ability of an A&D company to refresh their PLM solution without loss of data and without excessive cost and effort.

Goal

Develop more precise definition of causal factors contributing to negative impacts of obsolescence and survey state of the art in mitigation methods.

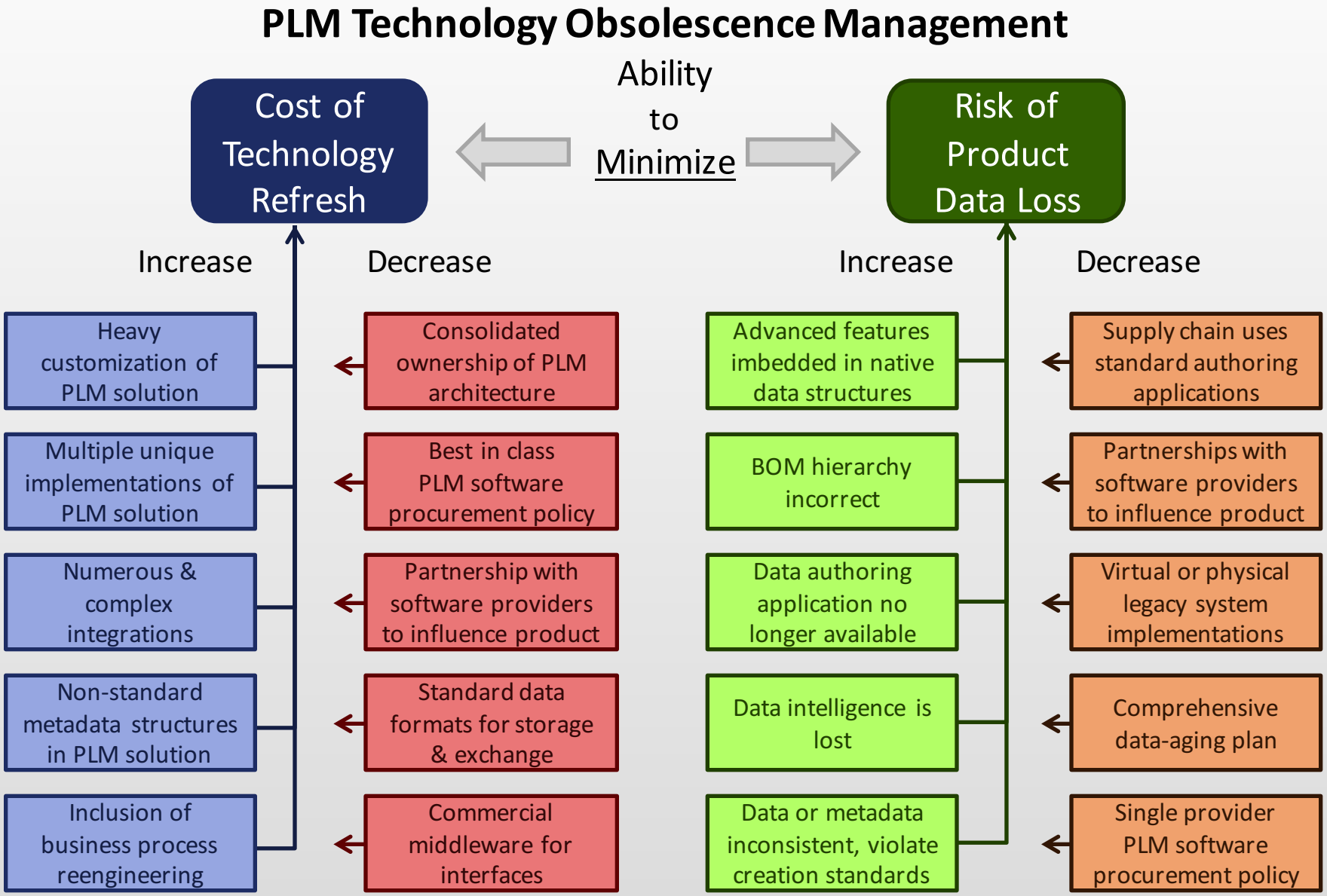
Deliverables

- Obsolescence management model
  - Causal factors contributing to negative impacts of obsolescence
  - Methods for effective mitigation
- Initial assessment of current state
  - Causal factors ranking
  - Mitigation methods adoption
  - Solution provider perspectives

* Funded by Aerospace & Defense PLM Action Group

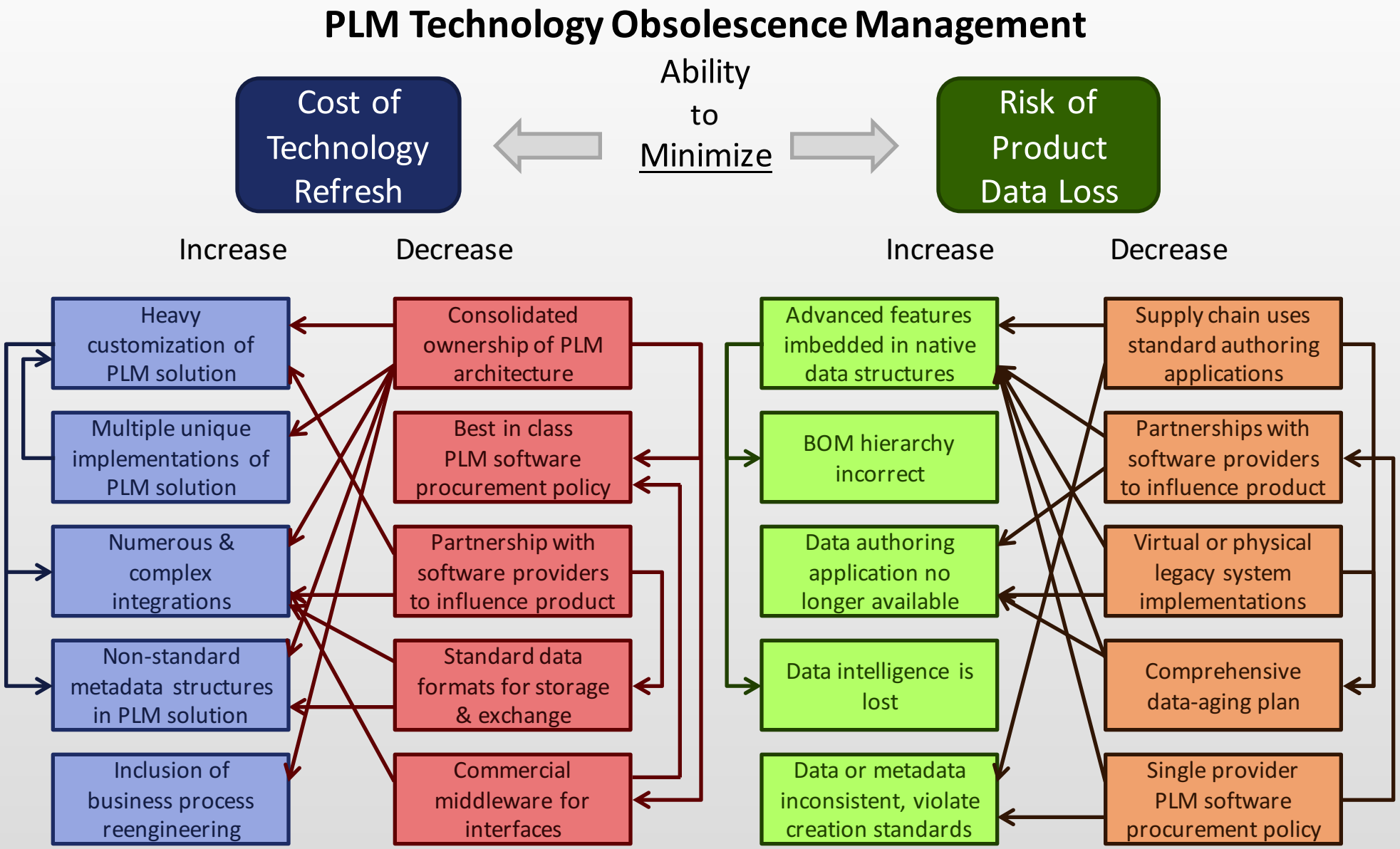
PLM Obsolescence Management – Phase 1

Top FIVE causal factors and mitigation methods



PLM Obsolescence Management – Phase 1

Interrelationships between causal factors and mitigation methods



PLM Obsolescence Management – Phase 1

Summary Observations

- Contradiction between Best in Class and Single Provider as mitigation methods
- Surprising that out-of-the-box (OOTB) did not make the Top Five list
- Two views of business process reengineering
- Some data loss mitigation methods address near term, some address long term
- Partnership with software providers is a good idea that doesn't work well
- Good ideas for data loss mitigation that don't work well – yet
  - Virtual or physical legacy system implementations
  - Comprehensive data aging plan
- Unreconciled conflict between innovation, cost and risk

PLM Obsolescence Management – Phase

Conclusions

- Causes of high cost and risk of data loss are primarily technology based, but mitigation methods are primarily policy and process based
- Standards, especially in relation to LOTAR, will play an increasingly important role in mitigating risk of data loss
- Members have the primary role in mitigation of cost and risk of technology refresh
- *Consolidated ownership of PLM architecture* offers great potential for cost reduction
- Solution providers can play a significant role in mitigation of cost and risk, but will need clear communication and strong financial pressure from their customer base

PLM Obsolescence Management Research*

Phase 2 project overview

Scope

Three interrelated elements of the Obsolescence Management model with dependence on standards for mitigation. Include sources to obtain best practice insights.

Goal

Acquire insights and supporting evidence for a direction statement to influence solution providers, standards bodies, and members' supply chains.

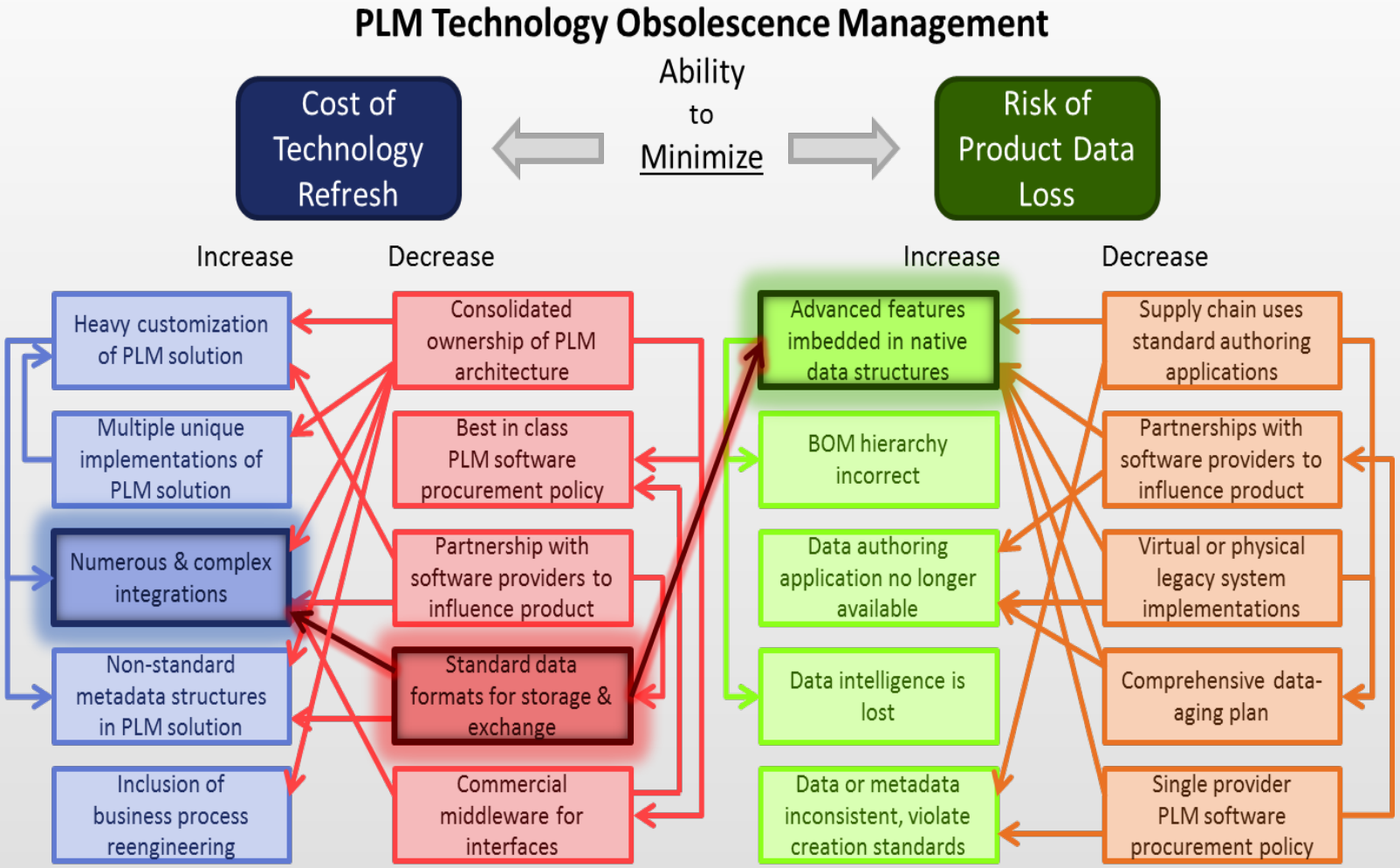
Deliverables

- Benefits of advanced feature usage within design teams
- Cost and risk outside design teams due to advanced feature usage
- Current practice and trends in mitigation methods, e.g. standards
- Improvement opportunities
- Directives for solution providers and standards bodies

* Funded by Aerospace & Defense PLM Action Group

PLM Obsolescence Management – Phase 2

Leveraging Phase 1 research



PLM Obsolescence Management – Phase 2

Initial observations (research is still in progress)

- PMI is a key capability that is getting closer to achieving what was promised
- Still issues with leveraging core CAD capabilities downstream (features, surface types, PMI, inter-model constraints, etc.)
- Mitigations are primarily manual processes

PLM Investment Sustainability Project*

Building a maturity model to help companies improve

Objective: Develop a maturity model and associated supporting materials that qualifies and quantifies a PLM environment's and/or strategy's short- and long-term viability

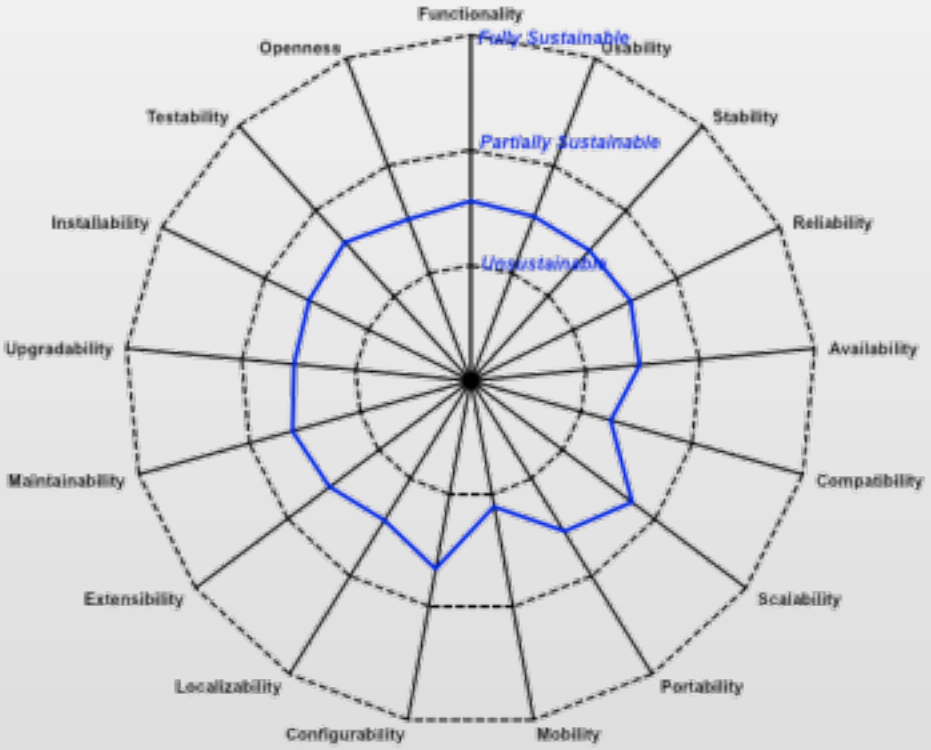
- Model is based on seventeen elements that are critical to the long-term successful operation of a PLM environment
- Model is implemented as a survey that captures and processes responses to questions on sustainability elements

* Funded by Enterprise Value & Integration Knowledge Council

PLM Investment Sustainability Project

Details and results

- Summary results so far
  - 10 companies surveyed, more planned
  - Scalability and Configurability are the highest scoring elements probably due to hardware/Server OS/DB advances and UI configurability
  - A lot of variation across companies, not enough data to discern patterns
  - Overall scores are low, i.e., unsustainable across all elements
- Conclusions
  - PLM upgrades won't be getting significantly easier for a while
  - The promise of the Cloud and Platforms addresses many sustainability issues



Composite of All Respondents

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