0 Executive Summary

This Benchmarking Handbook is a unique resource created by members of the PLM Interest Group (PLMIG) in November 2004. Its methodology embodies their collective PLM experience and can be applied to conduct PLM benchmarks, internally or with external partners, at any desired level.

Every organisation that wishes to benchmark its PLM performance will have a different PLM environment and different areas that it feels are most important to measure. By the nature of PLM, some of the measures may be exact or quantitative, but many will be qualitative. This makes it unrealistic for the Handbook to contain a pre-prepared list of all of the questions that may be asked in all benchmarking scenarios. There could be tens of thousands of them, and only a small subset would apply in any given Benchmark. The Handbook has been designed to overcome this problem, yet be usable in any PLM benchmarking situation.

The Handbook provides a mechanism to enable two distinct and unrelated corporate organisations to benchmark their PLM environments against each other in a thorough and revealing way, but it is equally applicable to a single corporation that wishes to compare the PLM progress of its internal divisions, or to an organisation that would like to get a first internal appraisal of its PLM situation.

The proposed Methodology involves a three-stage approach, with each stage leading to more detail. The Handbook guides its users through the process of identifying, selecting and generating the relevant high-level and detailed questions so that the Benchmark reveals the information that is required. This is an interactive, iterative and flexible approach which will work in each unique benchmarking situation. It is recommended that users of the Handbook follow the approach as closely as possible, simply because it is concise, consistent, flexible, comprehensive and effective. Following the elements of PLM benchmarking as described in this Handbook will save considerable time and effort, and will lead to more focused results.

Prior to benchmarking with another organisation, an organisation needs to get a good understanding of its own PLM. It achieves this in the first stage by creating its 'Level 0' Navigation Model, and by conducting an internal 'Level 1' benchmark assessment. The 'Navigation Model' is a formal definition of an organisation's PLM environment, compiled from the organisation's PLM Drivers, PLM Capabilities and Process Landscape. It creates a picture of an organisation's PLM situation and of the drivers which have given rise to the need to benchmark it against that of other organisations. This provides an overall orientation, and helps navigate into the more detailed benchmarking that will follow.

Before commencing the second stage, the two organisations meet and compare their Navigation Models. There will probably be some differences in the content and terminology of the various Navigation Models, because they were prepared in isolation. After these have been discussed and resolved, a Joint Navigation Model is published.

In the second stage a Joint Level 1 Benchmark is carried out at a high level. In the third stage, a Joint Level 2 Benchmark is carried out in thorough detail, “drilling down” to specific figures and focussed comparisons.

The PLMIG PLM Benchmarking Handbook is owned by the PLM Interest Group, which also holds the Copyright. Every organisation that purchases a bona fide copy of the Handbook has the right to use the Handbook, and to modify and develop it for their own purposes, but not to resell it. Feedback will be gathered by the PLMIG as the Handbook is used, which may lead to the creation of a new ‘Version 2.0’ in the future.
# Table of Contents

0 Executive Summary..................................................................................................................3
1 Background..................................................................................................................................6
2 Introduction..............................................................................................................................7
  2.1 Handbook Source..............................................................................................................7
  2.2 How to use this handbook...............................................................................................7
  2.3 Future Development.........................................................................................................7
3 Definitions ...................................................................................................................................8
4 General Principles ..................................................................................................................10
  4.1 Role of the Handbook....................................................................................................10
  4.2 Avoiding a 'Tick-Box' Approach...................................................................................10
  4.3 Good Practice................................................................................................................10
  4.4 Be Prepared..................................................................................................................10
  4.5 Similar / Dissimilar Organisations................................................................................11
5 Benchmarking Principles.......................................................................................................12
  5.1 PLM Drivers vs. Enterprise Drivers.............................................................................12
  5.2 Process Orientation........................................................................................................12
  5.3 Non-Linearity................................................................................................................12
  5.4 IT Tools.........................................................................................................................13
  5.5 Facilities / Plant / Geographies....................................................................................13
6 Overview of the Methodology..................................................................................................14
  6.1 Benchmarking Levels.....................................................................................................14
  6.2 Benchmarking Subject Areas........................................................................................14
    6.2.1 Level 0 Subject Areas..............................................................................................14
    6.2.2 Level 1 Subject Areas..............................................................................................14
    6.2.3 Level 2 Subject Areas..............................................................................................15
  6.3 Benchmarking Stages........................................................................................................15
    6.3.1 Motivation...............................................................................................................15
    6.3.2 Creating the Navigation Model...............................................................................15
    6.3.3 Internal Level 1 Benchmark....................................................................................15
    6.3.4 Review....................................................................................................................15
    6.3.5 Aligning with Partners...........................................................................................15
    6.3.6 Joint Level 1 Benchmark........................................................................................15
    6.3.7 Review....................................................................................................................16
    6.3.8 Joint Level 2 Benchmark........................................................................................16
    6.3.9 Continuation Policy, and Ongoing Improvement...................................................16
  6.4 Outline Flowchart – Complete Methodology.................................................................17
  6.5 Flowchart Notes..............................................................................................................18
7 Level 0 Benchmark................................................................................................................19
  7.1 Level 0 Aims and Introduction.......................................................................................19
  7.2 Outline Flow Chart – Level 0........................................................................................19
  7.3 Detailed Flow Chart – Level 0........................................................................................20
  7.4 Conducting the Level 0 Benchmark.............................................................................22
    7.4.1 Level 0 Methodology..............................................................................................22
    7.4.2 PLM Drivers...........................................................................................................23
    7.4.3 PLM Capabilities.....................................................................................................23
    7.4.4 Generating a Process Landscape..........................................................................23
  7.5 Next Steps: Concluding Level 0....................................................................................26
8 Level 1 Benchmark................................................................................................................27
  8.1 Level 1 Aims and Introduction.......................................................................................27
  8.2 Outline Flow Chart – Level 1........................................................................................27
  8.3 Detailed Flow Chart – Level 1........................................................................................28
  8.4 Conducting the Level 1 Benchmark.............................................................................29
    8.4.1 Level 1 Methodology..............................................................................................29
    8.4.2 General..................................................................................................................29
    8.4.3 Positioning.............................................................................................................30
    8.4.4 Cultures / Structures............................................................................................30
    8.4.5 Products / Services................................................................................................31
    8.4.6 PLM Vision............................................................................................................32
    8.4.7 Lifecycle / Processes / Activities.........................................................................33