Product Lifecycle Management Antti Saaksvuori Springer

Because today's products rely on tightly integrated hardware and software components, system and software engineers, and project and product managers need to have an understanding of both product data management (PDM) and software configuration management (SCM). This groundbreaking book offers you that essential knowledge, pointing out the similarities and differences of these two processes, and showing you how they can be combined to ensure effective and efficient product and system development, production and maintenance.

Product Lifecycle Management (PLM) is the newest wave in productivity. This revolutionary approach is an outcome of lean thinking; however, PLM eliminates waste and efficiency across all aspects of a product's life--from design to deployment--not just in its manufacture. By using people, product information, processes, and technology to reduce wasted time, energy, and material across an organization and into the supply chain, PLM drives the next generation of lean thinking. Now PLM pioneer Michael Grieves offers everyone from Six Sigma and lean practitioners to supply chain managers, product developers, and consultants a proven framework for adopting this information-driven approach. Product Lifecycle Management shows you how to greatly enhance your firm's productivity by integrating the efforts of your entire organization. Most companies are seeing the returns of their efforts in lean methods diminishing, as the most fruitful applications have already been addressed. Here, Grieves reveals how PLM gives you an opportunity to make improvements both within and across functional areas in order to increase agility, optimize efficiency, and reduce costs across the board. He gives you the most comprehensive view of PLM available, fully outlining its characteristics, method, and tools and helping you assess your organizational readiness. There's also proven examples from the field, where PLM is being widely adopted by leading companies, including General Motors, General Electric, and Dell, that are widely adopting the approach. You'll see how PLM has saved these companies billions in unnecessary costs and shaved as much as 60% off cycle times. With this book you'll learn how to: Develop and implement your PLM strategy to support your corporate objectives Engage all your employees in using information to eliminate waste Enable improved information flow Better organize and utilize your intellectual capital Foster an environment that drives PLM Lean manufacturing can only take your organization so far. To bring your productivity to the next level and save remarkable amounts of time, money, and resources, Product Lifecycle Management is your one-stop, hands-on guide to implementing this powerful methodology. A practical approach to business transformation Fit for Growth* is a unique approach to business transformation that explicitly connects growth strategy with cost management and organization restructuring. Drawing on 70-plus years of strategy consulting experience and in-depth research, the

experts at PwC's Strategy& lay out a winning framework that helps CEOs and senior executives transform their organizations for sustainable, profitable growth. This approach gives structure to strategy while promoting lasting change. Examples from Strategy&'s hundreds of clients illustrate successful transformation on the ground, and illuminate how senior and middle managers are able to take ownership and even thrive during difficult periods of transition. Throughout the Fit for Growth process, the focus is on maintaining consistent high-value performance while enabling fundamental change. Strategy& has helped major clients around the globe achieve significant and sustained results with its research-backed approach to restructuring and cost reduction. This book provides practical guidance for leveraging that expertise to make the choices that allow companies to: Achieve growth while reducing costs Manage transformation and transition productively Create lasting competitive advantage Deliver reliable, high-value performance Sustainable success is founded on efficiency and high performance. Companies are always looking to do more with less, but their efforts often work against them in the long run. Total business transformation requires total buy-in, and it entails a series of decisions that must not be made lightly. The Fit for Growth approach provides a clear strategy and practical framework for growth-oriented change, with expert guidance on getting it right. *Fit for Growth is a registered service mark of PwC Strategy& Inc. in the United States

This book provides insight into the Life Cycle Management (LCM) concept and the progress in its implementation. LCM is a management concept applied in industrial and service sectors to improve products and services, while enhancing the overall sustainability performance of business and its value chains. In this regard, LCM is an opportunity to differentiate through sustainability performance on the market place, working with all departments of a company such as research and development, procurement and marketing, and to enhance the collaboration with stakeholders along a company's value chain. LCM is used beyond short-term business success and aims at long-term achievements by minimizing environmental and socio-economic burden, while maximizing economic and social value.

Product Lifecycle Management, 2Nd Ed

The Future of Product Development

Product Lifecycle Management and the Industry of the Future

Product Lifecycle Management (Volume 1)

Project Management for Modern Information Systems

Master Data Management

This book constitutes the refereed proceedings of the 13th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2016, held in Columbia, SC, USA, in July 2016. The 57 revised full papers presented were carefully reviewed and selected from 77 submissions. The papers are organized in the following topical

sections: knowledge sharing, re-use and preservation; collaborative development architectures; interoperability and systems integration; lean product development and the role of PLM; PLM and innovation; PLM tools; cloud computing and PLM tools; traceability and performance; building information modeling; big data analytics and business intelligence; information lifecycle management; industry 4.0; metrics, standards and regulation; and product, service and systems.

?This Springer Briefs volume guides the reader in a comprehensive form to design new digital business models. The book provides strategic roadmaps for enterprises in the digital world, and a comprehensive framework to assess new business models. It aligns both, research and a practical perspective through real case study examples. Even extreme scenarios are employed to ensure that innovative approaches are being considered adequately.

This is the first English-language book on Product Lifecycle Management (PLM) that introduces the reader to the basic terms and fundamentals of PLM. The text provides a solid foundation for starting a PLM development project. It gives ideas and examples how PLM can be utilized in various industries. In addition, it also offers an insight into how PLM can assist in creating new business opportunities and in making real eBusiness possible.

"The Synergy of Apparel Product Development, Fifth Edition maps the processes required to bring apparel products from concept to consumer. This full-color text takes students step-by-step through the decision-making involved in the pre-production processes of apparel product development including business, creative, technical, and production planning. Updated chapter content reflects evolving industry practice. It demonstrates how these processes must be coordinated to get the right product to market, when consumers want it, and at a price they are willing to pay in an increasingly digital environment. The text seeks to address how functional approaches vary depending on a business's size and fashion focus. More global in scope, the fifth edition includes examples and case studies of multi-national companies and incorporates global nomenclature when it differs from the US industry. This new edition also advances its discussion of how new technologies continue to shorten the product development calendar. The book is written to help students anticipate the chaotic pace of change not only in fashion trends, but also in the fashion system itself"--

Design of Sustainable Product Life Cycles

Product Lifecycle Management

Life Cycle Management

A Life Cycle Approach

A Process Improvement Approach
Product Lifecycle Management: Driving the Next Generation of Lean Thinking
The automotive industry faces constant pressure to reduce development costs and time while still increasing vehicle quality. To meet this challenge, engineers and researchers in both science and industry are developing effective strategies and flexible tools by enhancing and further integrating powerful, computer-aided design technology. This book provides a valuable overview of the development tools and methods of today and tomorrow. It is targeted not only towards professional project and design engineers, but also to students and to anyone who is interested in state-of-the-art computer-aided development. The book begins with an overview of automotive development processes and the principles of virtual product development. Focusing on computer-aided design, a comprehensive outline of the fundamentals of geometry representation provides a deeper insight into the mathematical techniques used to describe and model geometrical elements. The book then explores the link between the demands of integrated design processes and efficient data management. Within automotive development, the management of knowledge and engineering data plays a crucial role. Some selected representative applications provide insight into the complex interactions between computer-aided design, knowledge-based engineering and data management and highlight some of the important methods currently emerging in the field.
The journey towards sustainability requires that companies must find innovative ways to make profits and at the same time extend the traditional boundaries of business to include the environmental and social dimensions, a process known as Life Cycle Thinking. This Guide contains many examples illustrating how business organizations are putting Life Cycle Thinking into practice all over the world.
Organisations face many challenges, which induce them to perform better, and thus to establish mature (or excellent) business processes. As they now face globalisation, higher competitiveness, demanding customers, growing IT possibilities, compliancy rules etc., business process maturity models (BPMMs) have been introduced to help organisations gradually assess and improve their business processes (e.g. CMMI or OMG-BPMM). In fact, there are now so many BPMMs to choose from that organisations risk selecting one that does not fit their needs or one of substandard quality. This book presents a study that distinguishes process management from process orientation so as to arrive at a common understanding. It also includes a classification study to identify the capability areas and maturity types of 69 existing BPMMs, in order to strengthen the basis of available BPMMs. Lastly it presents a selection study to identify criteria for choosing

one BPMM from the broad selection, which produced a free online selection tool, BPMM Smart-Selector. This book constitutes the refereed post-conference proceedings of the 15th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2018, held in Turin, Spain, in July 2018. The 72 revised full papers presented were carefully reviewed and selected from 82 submissions. The papers are organized in the following topical sections: building information modeling; collaborative environments and new product development; PLM for digital factories and cyber physical systems; ontologies and data models; education in the field of industry 4.0; product-service systems and smart products; lean organization for industry 4.0; knowledge management and information sharing; PLM infrastructure and implementation; PLM maturity, implementation and adoption; 3D printing and additive manufacturing; and modular design and products and configuration and change management.

Context: A Prescription Based on Empirical Research
Product Lifecycle Management to Support Industry 4.0
An Ecosystem Approach
Integrated Computer-Aided Design in Automotive Development
State of Art of IS Research in SMEs
Data Management Body of Knowledge

This book provides a comprehensive overview of potential opportunities and the business value position related to implementing physics-based real-time simulation to production. The objective of real-time simulation is to provide value for all three dimensions of sustainability: economic, social, and environmental. By reviewing actual industrial cases and presenting relevant academic research, the book examines the topic from four interrelated viewpoints: the industrial need for sustainable production, the development of game-like virtual environments, capturing customer value and enhancing the user experience, and finally, establishing business value. It offers a framework that will enable a rethink and shift in mindset to appreciate how real-time simulation can change the way products are manufactured and services are produced. This book will appeal to researchers and scholars in areas as diverse as strategic management, manufacturing and operations management, marketing, industrial economics, and product lifecycle management.

This third edition updates and adds to the successful second edition and gives the reader a thorough description of PLM, providing them with a full understanding of the theory and the practical skills to implement PLM within their own business environment. This new and expanded edition is fully updated to reflect the many technological and

management advances made in PLM since the release of the second edition. Describing the environment in which products are developed, manufactured and supported, before addressing the Five Pillars of PLM: business processes, product data, PLM applications, Organisational Change Management (OCM) and Project Management, this book explains what Product Lifecycle Management is, and why it's needed. The final part of the book addresses the PLM timeline, showing the typical steps and activities of a PLM project or initiative. "Product Lifecycle Management" will broaden the reader's understanding of PLM, nurturing the skills needed to implement PLM successfully and to achieve world-class product performance across the lifecycle.

Delivers a comprehensive textbook for a single-semester course in engineering economics/engineering economy for undergraduate engineering students.

The aim of this book is to provide a better understanding with as to how to coordinate and improve decisions about product life cycle, process and supply chain design to improve new product development. The conclusions are based upon original research of supply chain management and new product development in numerous industries.

15th IFIP WG 5.1 International Conference, PLM 2018, Turin, Italy, July 2-4, 2018, Proceedings

Managing Product Life Cycle in a Supply Chain

Product Lifecycle Management for Digital Transformation of Industries

Real-time Simulation for Sustainable Production

IFIP WG 5.1 International Conference, PLM 2012, Montreal, QC, Canada, July 9-11, 2012, Revised Selected Papers

Offering a comprehensive overview of the challenges, risks and options facing the future of mechatronics, this book provides insights into how these issues are currently assessed and managed. Building on the previously published book 'Mechatronics in Action,' it identifies and discusses the key issues likely to impact on future mechatronic systems. It supports mechatronics practitioners in identifying key areas in design, modeling and technology and places these in the wider context of concepts such as cyber-physical systems and the Internet of Things. For educators it considers the potential effects of developments in these areas on mechatronic course design, and ways of integrating these. Written by experts in the field, it explores topics including systems integration, design, modeling, privacy, ethics and future application domains. Highlighting novel innovation directions, it is intended for academics, engineers and students working in the field of mechatronics, particularly those developing new concepts, methods and ideas.

Successfully managed product information for mass customization avoids disclosure of how these systems work. This is the first book to provide a holistic recognition of the essential aspects of an IT-supported product configuration system. It reveals the basic building blocks of these systems and their operational and strategic implications.

Years of experience in the area of Product Lifecycle Management (PLM) in industry, research and education form the basis for this overview. The author covers the development from PDM via PLM to SysLM (System Lifecycle Management) in the form commonly used today, which are

necessary prerequisites for the sustainable development and implementation of IoT/IoS, Industry 4.0 and Engineering 4.0 concepts. The building blocks and properties of future-proof systems for the successful implementation of the concepts of Engineering 4.0 are thereby dedicated to holistic considerations, which also inform in detail. SysLM functions and processes in mechatronic development and design as well as across the entire product lifecycle - from requirements management to the Digital Twin - are covered as examples. SysLM trends such as low code development, cloud, disruptive business models, and bimodality provide an outlook on future developments. The author dedicates the treatment of the agile SysLM introduction to the implementation in the enterprise. The basics are deepened with examples of a concrete SysLM system.

The key to a successful MDM initiative isn't technology or methods, it's people: the stakeholders in the organization and their complex ownership of the data that the initiative will affect. Master Data Management equips you with a deeply practical, business-focused way of thinking about MDM—an understanding that will greatly enhance your ability to communicate with stakeholders and win their support. Moreover, it will help you deserve their support: you'll master all the details involved in planning and executing an MDM project that leads to measurable improvements in business productivity and effectiveness. * Presents a comprehensive roadmap that you can adapt to any MDM project. * Emphasizes the critical goal of maintaining and improving data quality. * Provides guidelines for determining which data to "master. * Examines special issues relating to master data metadata. * Considers a range of MDM architectural styles. * Covers the synchronization of master data across the application infrastructure.

Information Systems for Small and Medium-sized Enterprises

Development Processes, Geometric Fundamentals, Methods of CAD, Knowledge-Based Engineering Data Management

Automation, Adaption and Manufacturing in Finland and Beyond

Mechatronic Futures

A Comparative Study on a Sample of Business Process Maturity Models

Enhancing User Experience and Creating Business Value

This book establishes and explores existing and emerging theories on Small and Medium-sized Enterprises (SMEs) and the adoption of IT/IS. It presents the latest empirical research findings in that area of IS research and explores new technologies and practices. The book is written for researchers and professionals working in the field of IS research or the research of SMEs. Moreover, the book will be a reference for researchers, professionals and students in management information systems science and related fields.

Life cycle design is understood as "to develop" (to plan, to calculate, to define, to draw) a holistic concept for the entire life cycle of a product". Life cycle design means a one time planning during the concept phase of a product in which the pathway of a product over the entire life cycle is determined. So e.g. the planning of possible services for a product during its utilization phase, the way of material recycling, how and which parts can be reused, how the logistics for recycling will be organised or how the product can be used afterwards. So it is a conceptual pre-design of all later activities over the life cycle. By this understanding the book delivers a really holistic approach because before a product is physically made a life-long concept and utilization scenarios with closed material and information cycles have to be developed. This promotes a real "thinking in product (life) cycles". The book addresses professionals as well as researchers and students in the field of product life cycle management. Different methods in the field of product design, operation and recycling will be presented and finally merge to an integrated method of product life cycle design.

Readers will benefit from the holistic approach which enables them to design successful products by the implementation of closed loop product life cycles.

These proceedings represent trends in Product Development concerning industrial vendors and scientific research aspects. Coverage includes the following topics are covered: Design Theory, Product Design, Requirements, Collaborative Engineering, Complex Design, Mechatronics, Reverse Engineering, Virtual Prototyping, CAE, KBE and PLM. The papers presented in this book show that answers can only be composed out of a variety of solutions where psychological, economical and technical research results are taken into account.

Written by experienced process improvement professionals who have developed and implemented systems in organizations around the world, Interpreting the CMMI®: A Process Improvement Approach provides you with specific techniques for performing process improvement using the CMMI® and the family of CMM models. Kulpa and Johnson describe the fundamental concepts of the CMMI® model - goals, practices, architecture, and definitions - in everyday language, give real-world examples, and provide a structured approach for implementing the concepts of the CMMI® into any organization. They walk you through the myriad charts and graphs involved in statistical process control and offer recommendations for which tools to use. The book covers roles and responsibilities, people issues, how to generate meaningful documentation, how to overcome resistance to change, and how to track the success of your efforts. It provides examples of plans, policies, processes, procedures, and team charters. The appendices include matrices summarizing the different assessment techniques that have now been approved by the SEI for use, "pros and cons" associated with this model, some of the myths that have arisen from the marketing of the CMMI® effort, and forms and templates. The book comes with a CD-ROM that contains forms and templates that can be downloaded and customized. The authors distill the knowledge gained in their combined 60 years of experience in project management, software engineering, systems engineering, metrics, quality assurance, configuration management, training, documentation, process improvement, and team building. Whether you are new to process improvement or an experienced professional, Interpreting the CMMI®: A Process Improvement Approach saves you time wasted on false starts, false promises by marketers, and failed deadlines.

Operations and Production Systems with Multiple Objectives

Implementing and Integrating Product Data Management and Software Configuration Management

Connecting Customer, Front-office and Back-office for Fast and Efficient Customization

DAMA-DMBOK

Engineering Digitalization (Engineering 4.0)

22nd IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2021, Saint-Étienne, France, November 22–24, 2021, Proceedings

In recent years the increased awareness of environmental issues has led to the development of new approaches to product design, known as Design for Environment and Life Cycle Design. Although still considered emerging and in some cases radical, their principles will become, by necessity, the wave of the future in design. A thorough exploration of the subject, Product Design for the Environment: A Life Cycle Approach presents key concepts, basic design frameworks and techniques, and practical applications. It identifies effective methods and tools for product design, stressing the environmental performance of

products over their whole life cycle. After introducing the concepts of Sustainable Development, the authors discuss Industrial Ecology and Design for Environment as defined in the literature. They present the life cycle theory and approach, explore how to apply it, and define its main techniques. The book then covers the main premises of product design and development, delineating how to effectively integrate environmental aspects in modern product design. The authors pay particular attention to environmental strategies that can aid the achievement of the requisites of eco-efficiency in various phases of the product life cycle. They go on to explore how these strategies are closely related to the functional performance of the product and its components, and, therefore, to some aspects of conventional engineering design. The book also introduces phenomena of performance deterioration, together with principles of design for component durability, and methods for the assessment of residual life. Finally, the book defines entirely new methods and tools in relation to strategic issues of Life Cycle Design. Each theme provides an introduction to the problems and original proposals based on the authors' experience. The authors then discuss the implementation of these new concepts in design practice, differentiating between levels of intervention and demonstrating their use and effectiveness in specific case studies. The book not only presents evidence of the potential of the approach and methods proposed, but also analyzes some of the problems involved in developing eco-compatible products in the company context.

Information is the organisation's strategic resource, yet much of the information that an organisation recieves, is nuance and innuendo; more of a potential that a prescription for action. This book will help you gain an understanding of how an organisation may manage its information processes more effectively in order to increase its capacity to learn and adapt. Defining a set of guiding principles for data management and describing how these principles can be applied within data management functional areas; Providing a functional framework for the implementation of enterprise data management practices; including widely adopted practices, methods and techniques, functions, roles, deliverables and metrics; Establishing a common vocabulary for data management concepts and serving as the basis for best practices for data management professionals. DAMA-DMBOK2 provides data management and IT professionals, executives, knowledge workers, educators, and researchers with a framework to manage their data and mature their information infrastructure, based on these principles: Data is an asset with unique properties; The value of data can be and should be expressed in economic terms; Managing data means managing the quality of data; It takes metadata to manage data; It takes planning to manage data; Data management is cross-functional and requires a range of skills and expertise; Data management requires an enterprise perspective; Data management must account for a range of perspectives; Data management is data lifecycle management; Different types of data have different lifecycle requirements; Managing data includes managing risks associated with data; Data management requirements must drive information technology decisions; Effective data management requires leadership commitment. In today`s industrial manufacturing Product Lifecycle Management (PLM) is essential in order to cope with the challenges of more demanding global competition. New and more complex products must be introduced to markets faster than ever before. Companies form large collaborative networks, and the product process must flow flexibly across company borders. This first book on Product Lifecycle Management in English language is designed to introduce the reader to the basic terms and fundamentals of PLM and to give a solid foundation for starting a PLM development project. It gives ideas and examples how

PLM can be utilized in various industries. In addition, it also offers an insight into how PLM can assist in creating new business opportunities and in making real eBusiness possible.

Corporate Data Quality

13th IFIP WG 5.1 International Conference, PLM 2016, Columbia, SC, USA, July 11-13, 2016, Revised Selected Papers

Information Management for the Intelligent Organization

System Lifecycle Management

Driving the Next Generation of Lean Thinking

The Art of Scanning the Environment

This book constitutes the refereed post-proceedings of the 9th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2012, held in Montreal, Canada, in July 2012. The 58 full papers presented were carefully reviewed and selected from numerous submissions. They cover a large range of topics such as collaboration in PLM, tools and methodologies for PLM, modeling for PLM, and PLM implementation issues.

Product Lifecycle ManagementSpringer Science & Business Media

The first comprehensive book to uniquely combine the three fields of systems engineering, operations/production systems, and multiple criteria decision making/optimization Systems engineering is the art and science of designing, engineering, and building complex systems—combining art, science, management, and engineering disciplines. Operations and Production Systems with Multiple Objectives covers all classical topics of operations and production systems as well as new topics not seen in any similiar textbooks before: small-scale design of cellular systems, large-scale design of complex systems, clustering, productivity and efficiency measurements, and energy systems. Filled with completely new perspectives, paradigms, and robust methods of solving classic and modern problems, the book includes numerous examples and sample spreadsheets for solving each problem, a solutions manual, and a book companion site complete with worked examples and supplemental articles. Operations and Production Systems with Multiple Objectives will teach readers: How operations and production systems are designed and planned How operations and production systems are engineered and optimized How to formulate and solve manufacturing systems problems How to model and solve interdisciplinary and systems engineering problems How to solve decision problems with multiple and conflicting objectives This book is ideal for senior undergraduate, MS, and PhD graduate students in all fields of engineering, business, and management as well as practitioners and researchers in systems engineering, operations, production, and manufacturing.

This book constitutes the refereed post-conference proceedings of the 14th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2017, held in Seville, Spain, in July 2017. The 64 revised full papers presented were carefully reviewed and selected from 78 submissions. The papers are

organized in the following topical sections: PLM maturity, implementation and adoption; PLM for digital factories; PLM and process simulation; PLM, CAX and knowledge management; PLM and education; BIM; cyber-physical systems; modular design and products; new product development; ontologies, knowledge and data models; and Product, Service, Systems (PSS).
Challenges and Solutions for Mechatronic Systems and their Designers
Fit for Growth
Beyond Design
21st Century Paradigm for Product Realisation
Business Modelling in the Dynamic Digital Space
Technical, Economic and Societal Effects of Manufacturing 4.0
This book constitutes the refereed proceedings of the 22nd IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2021, held in Saint-Étienne, and virtually in November 2021. The 70 papers (15 full and 55 short) presented with 5 industrial workshop papers were carefully reviewed and selected from 189 submissions. They provide a comprehensive overview of major challenges and recent advances in various domains related to the digital transformation and collaborative networks and their applications with a strong focus on the following areas related to the main theme of the conference: sustainable collaborative networks; sustainability via digitalization; analysis and assessment of business ecosystems; human factors in collaboration 4.0; maintenance and life-cycle management; policies and new digital services; safety and collaboration management; simulation and optimization; complex collaborative systems and ontologies; value co-creation in digitally enabled ecosystems; digitalization strategy in collaborative enterprises' networks; pathways and tools for DIHs; socio-technical perspectives on smart product-service systems; knowledge transfer and accelerated innovation in FoF; interoperability of IoT and CPS for industrial CNs; sentient immersive response network; digital tools and applications for collaborative healthcare; collaborative networks and open innovation in education 4.0; collaborative learning networks with industry and academia; and industrial workshop.
Introduces the basic terms and fundamentals of Product Lifecycle Management (PLM), and helps in starting a PLM development project. This book gives ideas and examples how PLM can be utilized in various industries. It also offers an insight into how PLM can assist in creating business opportunities, and in making eBusiness possible.
"This book describes and illustrates practices, procedures, methods, and tools for IT project management that address project success for modern times"--Provided by publisher.
This open access book is among the first cross-disciplinary works about Manufacturing 4.0. It includes chapters about the technical, the economic, and the social aspects of this important phenomenon. Together the material presented allows the reader to develop a holistic picture of where the

manufacturing industry and the parts of the society that depend on it may be going in the future. Manufacturing 4.O is not only a technical change, nor is it a purely technically driven change, but it is a societal change that has the potential to disrupt the way societies are constructed both in the positive and in the negative. This book will be of interest to scholars researching manufacturing, technological innovation, innovation management and industry 4.O.
A Business Guide to Sustainability
Interpreting the CMMI (R)
Product Information Management for Mass Customization
Prerequisite for Successful Business Models
A Guide to Strategic Cost Cutting, Restructuring, and Renewal
Business Process Maturity

Product Lifecycle Management (PLM) is an essential means to cope with the challenges of global competition. This is the first English-language book on PLM that introduces the reader to the basic terms and fundamentals of PLM. The text provides a solid foundation for starting a PLM development project. It gives ideas and examples of how PLM can be utilized. In addition, it offers insight into how PLM can assist in creating opportunities and in making real eBusiness possible.
Product Lifecycle Management (2nd edition) explains what Product Lifecycle Management (PLM) is, and why it's needed. It describes the environment in which products are developed, realised and supported, before looking at the basic components of PLM, such as the product, processes, applications, and people. The final part addresses the implementation of PLM, showing the steps of a project or initiative, and typical activities. This new and expanded edition of Product Lifecycle Management is fully updated to reflect the many advances made in PLM since the release of the first edition. It includes descriptions of PLM technologies and examples of implementation projects in industry. Product Lifecycle Management will broaden the reader's understanding of PLM, nurturing the skills needed to implement PLM successfully and to achieve world-class product performance across the lifecycle. "A 20-year veteran of PLM, I highly recommend this book. A clear and complete overview of PLM from definition to implementation. Everything is there - reasons, resources, strategy, implementation and PLM project management." Achim Heilmann, Manager, Global Technical Publications, Varian Medical Systems "Product Lifecycle Management is an important technology for European industry. This state-of-the art book is a reference for those implementing and researching PLM." Dr. Erastos Filos, Head of Sector "Intelligent Manufacturing Systems", European Commission "This book, written by one of the best experts in this field, is an ideal complement for PLM courses at Bachelor and Master level, as well as a well-founded reference book for practitioners." Prof. Dr.-Ing. Dr. h.c. Sandor Vajna, University of Magdeburg, Germany "This comprehensive book can help drive an understanding of PLM at all levels – from

CEOs to CIOs, and from professors to students — that will help this important industry continue to expand and thrive." James Heppelmann, President and Chief Executive Officer, PTC "PLM is a mission-critical decision-making system leveraged by the world's most innovative companies to transform their process of innovation on a continuous basis. That is a powerful value proposition in a world where the challenge is to get better products to the market faster than ever before. That is the power of PLM." Tony Affuso, Chairman and CEO, Siemens PLM Software

Data is the foundation of the digital economy. Industry 4.0 and digital services are producing so far unknown quantities of data and make new business models possible. Under these circumstances, data quality has become the critical factor for success. This book presents a holistic approach for data quality management and presents ten case studies about this issue. It is intended for practitioners dealing with data quality management and data governance as well as for scientists. The book was written at the Competence Center Corporate Data Quality (CC CDQ) in close cooperation between researchers from the University of St. Gallen and Fraunhofer IML as well as many representatives from more than 20 major corporations. Chapter 1 introduces the role of data in the digitization of business and society and describes the most important business drivers for data quality. It presents the Framework for Corporate Data Quality Management and introduces essential terms and concepts. Chapter 2 presents practical, successful examples of the management of the quality of master data based on ten cases studies that were conducted by the CC CDQ. The case studies cover every aspect of the Framework for Corporate Data Quality Management. Chapter 3 describes selected tools for master data quality management. The three tools have been distinguished through their broad applicability (method for DQM strategy development and DQM maturity assessment) and their high level of innovation (Corporate Data League). Chapter 4 summarizes the essential factors for the successful management of the master data quality and provides a checklist of immediate measures that should be addressed immediately after the start of a data quality management project. This guarantees a quick start into the topic and provides initial recommendations for actions to be taken by project and line managers. Please also check out the book's homepage at http://www.cdq-book.org/
Principles of Engineering Economics with Applications
Smart and Sustainable Collaborative Networks 4.0
Product Lifecycle Management: Towards Knowledge-Rich Enterprises
14th IFIP WG 5.1 International Conference, PLM 2017, Seville, Spain, July 10-12, 2017, Revised Selected Papers
Product Design for the Environment
Proceedings of the 17th CIRP Design Conference