

## The Maintenance Management Framework Models And Methods For Complex Systems Maintenance Springer Series In Reliability Engineering

This book integrates multiple criteria concepts and methods for problems within the Risk, Reliability and Maintenance (RRM) context. The concepts and foundations related to RRM are considered for this integration with multicriteria approaches. In the book, a general framework for building decision models is presented and this is illustrated in various chapters by discussing many different decision models related to the RRM context. The scope of the book is related to ways of how to integrate Applied Probability and Decision Making. In Applied Probability, this mainly includes: decision analysis and reliability theory, amongst other topics closely related to risk analysis and maintenance. In Decision Making, it includes a broad range of topics in MCDM (Multi-Criteria Decision Making) and MCDA (Multi-Criteria Decision Aiding; also known as Multi-Criteria Decision Analysis). In addition to decision analysis, some of the topics related to Mathematical Programming area are briefly considered, such as multiobjective optimization, since methods related to these topics have been applied to the context of RRM. The book addresses an innovative treatment for the decision making in RRM, thereby improving the integration of fundamental concepts from the areas of both RRM and decision making. This is accomplished by presenting an overview of the literature on decision making in RRM. Some pitfalls of decision models when applying them to RRM in practice are discussed and guidance on overcoming these drawbacks is offered. The procedure enables multicriteria models to be built for the RRM context, including guidance on choosing an appropriate multicriteria method for a particular problem faced in the RRM context. The book also includes many research advances in these topics. Most of the multicriteria decision models that are described are specific applications that have been influenced by this research and the advances in this field. Multicriteria and Multiobjective Models for Risk, Reliability and Maintenance Decision Analysis is implicitly structured in three parts, with 12 chapters. The first part deals with MCDM/A concepts methods and decision processes. The second part presents the main concepts and foundations of RRM. Finally the third part deals with specific decision problems in the RRM context approached with MCDM/A models.

Asset management is becoming increasingly important to an organization's strategy, given its effects on cost, production, and quality. No matter the sector, important decisions are made based on techniques and theories that are thought to optimize results; asset management models and techniques could help maximize effectiveness while reducing risk. *Optimum Decision Making in Asset Management* posits that effective decision making can be augmented by asset management based on mathematical techniques and models.

*Resolving the problems associated with minimizing uncertainty, this publication outlines a myriad of methodologies, procedures, case studies, and management tools that can help any organization achieve world-class maintenance. This book is ideal for managers, manufacturing engineers, programmers, academics, and advanced management students.*

*"The Maintenance Management Framework" describes and reviews the concept, process and framework of modern maintenance management of complex systems; concentrating specifically on modern modelling tools (deterministic and empirical) for maintenance planning and scheduling. It will be bought by engineers and professionals involved in maintenance management, maintenance engineering, operations management, quality, etc. as well as graduate students and researchers in this field.*

*Praise for COSO Enterprise Risk Management "COSO ERM is a thoughtful introduction to the challenges of risk management at the enterprise level and contains a wealth of information on dealing with it through the use of the COSO framework. Detailed procedures covering a wide variety of situations are followed by a thorough explanation of how each is deployed. As a project management professional, I appreciate how the author addresses the need for risk management at a project level. His background as someone who "practices what they preach" and realizes the impact of the Sarbanes-Oxley auditing rules comes through clearly in the book, and it should be mandatory reading for anyone seeking to understand how to tackle their own ERM issues."--Greg Gomei, PMP, CQM, CSQE, ITIL, Director, Project Management, Insight North America "This volume clearly and comprehensively outlines the usefulness of COSO Enterprise Risk Management guidance. It should provide considerable benefit to those having governance responsibilities in this important area."--Curtis Verschoor, L & Q Research Professor, School of Accounting and MISDePaul University, Chicago Transform your company's internal control function into a valuable strategic tool Today's companies are expected to manage a variety of risks that would have been unthinkable a decade ago. More than ever, it is vital to understand the dimensions of risk as well as how to best manage it to gain a competitive advantage. COSO Enterprise Risk Management clearly enables organizations of all types and sizes to understand and better manage their risk environments and make better decisions through use of the COSO ERM framework. A pragmatic guide for integrating ERM with COSO internal controls, this important book: Offers you expert advice on how to carry out internal control responsibilities more efficiently Updates you on the ins and outs of the COSO Report and its emergence as the new platform for understanding all aspects of risk in today's organization Shows you how an effective risk management program, following COSO ERM, can help your organization to better comply with the Sarbanes-Oxley Act Knowledgeably explains how to implement an effective ERM program COSO Enterprise Risk Management is the invaluable working resource that will show you how to identify risks, avoid pitfalls within your corporation, and keep it moving ahead of the competition.*

*Production and Operations Analysis*

*Multicriteria and Multiobjective Models for Risk, Reliability and Maintenance Decision Analysis*

*Proceedings of the Fourth World Congress on Engineering Asset Management (WCEAM) 2009*

*Strategies for Excellence in Maintenance Management, Third Edition*

*Mastering the Asset Management Transformation in Industrial Plants and Infrastructures*

*Intelligent Enterprises of the 21st Century*

Containing papers presented at the 18th European Safety and Reliability Conference (Esrel 2009) in Prague, Czech Republic, September 2009, Reliability, Risk and Safety Theory and Applications will be of interest for academics and professionals working in a wide range of industrial and governmental sectors, including Aeronautics and Aerospace. Aut

Most applications today are distributed in some fashion. Monitoring the health and performance of these distributed architectures requires a new approach. Enter distributed tracing, a method of profiling and monitoring applications—especially those that use microservice architectures. There's just one problem: distributed tracing can be hard. But it doesn't have to be. With this practical guide, you'll learn what distributed tracing is and how to use it to understand the performance and operation of your software. Key players at Lightstep walk you through instrumenting your code for tracing, collecting the data that your instrumentation produces, and turning it into useful, operational insights. If you want to start implementing distributed tracing, this book tells you what you need to know. You'll learn! The pieces of a distributed tracing deployment: Instrumentation, data collection, and delivering value Best practices for instrumentation (the methods for generating trace data from your service) How to deal with or avoid overhead, costs, and sampling How to work with spans (the building blocks of request-based distributed traces) and choose span characteristics that lead to valuable traces Where distributed tracing is headed in the future

'Life-cycle Maintenance Management Framework for Medium and Short-Span Concrete Bridge Elements' describes a set of performance prediction and maintenance optimization models and approaches for life-cycle bridge maintenance management. These are proposed by summarizing and incorporating valuable aspects of previous practices and developing some new models and approaches for different and comprehensive scenarios. The subject of this book is cross-disciplinary, covering bridge engineering and management science. This includes a set of performance prediction models that are proposed to extend the current knowledge by incorporating non-periodical inspections, as well, whereas most of the previously reported research has focused on periodical inspections. Researchers will also find the models presented in this book useful for optimizing the targeted balance between technical and economical considerations. This work is intended for those researchers and engineers in the field of bridge maintenance management who expect more effort devoted to transferring new procedures, methods, and tools into practice by addressing relevant problems, to better utilizing more pertinent data, and to explicitly addressing barriers to practical implementation. They will find the potential modeling and prediction enhancements useful in improving bridge maintenance decision making. Yanshan Yang, Lecturer, works at Zhejiang University.

This book features a collection of high-quality research papers presented at the International Conference on Tourism, Technology & Systems (ICOTTS 2021), held at the University of Cartagena, in Cartagena de Indias, Colombia, from 4 to 6 November 2021. The book is divided into two volumes, and it covers the areas of technology in tourism and the tourist experience, generations and technology in tourism, digital marketing applied to tourism and travel, mobile technologies applied to sustainable tourism, information technologies in tourism, digital transformation of tourism business, e-tourism and tourism 2.0, big data and management for travel and tourism, geotagging and tourist mobility, smart destinations, robotics in tourism, and information systems and technologies.

Framework and Practical Implementation

Value Based and Intelligent Asset Management

15th WCEAM Proceedings

Distributed Tracing in Practice

Understanding the New Integrated ERM Framework

A Reference Framework for Warranty Management

**This book provides a thorough overview of the integration of cyber-physical systems and maintenance management models. It begins by explaining the fundamental concepts behind maintenance digital transformation. It discusses key decision areas in digital maintenance management, particularly focusing on strategic dimensions of maintenance, digital twin definition and strategy, and Industry 4.0 digital tools frameworks to support emerging maintenance processes. Furthermore, the monograph dedicates time to the integration of digital maintenance with the entire digital factory. By presenting the possibilities for asset utilization improvement and for asset value enhancements, Digital Maintenance Management provides engineers and practitioners responsible for the management of complex industrial assets a complete guide to piloting the maintenance digital transformation.**

**This proceedings of the 13th World Congress on Engineering Asset Management covers a range of topics that are timely, relevant and practically important in the modern digital era towards safer, cost effective, efficient, and secure engineered assets such as production and manufacturing plants, process facilities, civil structures, equipment, machinery, and infrastructure. It has compiled some pioneering work by domain experts of the global Engineering Asset Management community representing both public and private sectors. The professional coverage of the book includes: Asset management in Industry 4.0; Standards and models; Sustainable assets and processes; Life cycle perspectives; Smart and safer assets; Applied data science; Workplace safety; Asset health; Advances in equipment condition monitoring; Critical asset processes; and Innovation strategy and entrepreneurship The breadth and depth of these state-of-the-art, comprehensive proceedings make them an excellent resource for asset management practitioners, researchers and academics, as well as undergraduate and postgraduate students.**

**This evidence-based book serves as a clinical manual as well as a reference guide for the diagnosis and management of common nutritional issues in relation to gastrointestinal disease. Chapters cover nutrition assessment; macro- and micronutrient absorption; malabsorption; food allergies; prebiotics and dietary fiber; probiotics and intestinal microflora; nutrition and GI cancer; nutritional management of reflux; nutrition in IBS and IBD; nutrition in acute and chronic pancreatitis; enteral nutrition; parenteral nutrition; medical and endoscopic therapy of obesity; surgical therapy of obesity; pharmacologic nutrition, and nutritional counseling.**

**Maintenance is a critical variable in industry to achieve competitiveness. Therefore, correct management of corrective, predictive, and preventive politics in any industry is required. Maintenance Management considers the main concepts, state of the art, advances, and case studies in this topic. This book complements other subdisciplines such as economics, finance, marketing, decision and risk analysis, engineering, etc.The book analyzes real case studies in multiple disciplines. It considers the topics of failure detection and diagnosis, fault trees, and subdisciplines (e.g. FMEA, FMEA, etc.). It is essential to link these topics with finance, scheduling, resources, downtime, etc. to increase productivity, profitability, maintainability, reliability, safety, and availability, and reduce costs and downtime.This book presents important advances in mathematics, models, computational techniques, dynamic analysis, etc., which are all employed in maintenance management.Computational techniques, dynamic analysis, probabilistic methods, and mathematical optimization techniques are expertly blended to support the analysis of multicriteria decision-making problems with defined constraints and requirements.The book is ideal for graduate students and professionals in industrial engineering, business administration, industrial organization, operations management, applied microeconomics, and the decisions sciences, either studying maintenance or who are required to solve large, specific, and complex maintenance management problems as part of their jobs. The book will also be of interest to researchers from academia.**

**Advanced Maintenance Modelling for Asset Management**

**eMaintenance**

**Guiding Digital Transformation in Maintenance**

**Cases on Optimizing the Asset Management Process**

**Techniques and Methods for Complex Industrial Systems**

**Modern Maintenance Management - Concepts and Cases**

*To be able to compete successfully both at national and international levels, production systems and equipment must perform at levels not even thinkable a decade ago. Requirements for increased product quality, reduced throughput time and enhanced operating effectiveness within a rapidly changing customer demand environment continue to demand a high maintenance performance. In some cases, maintenance is required to increase operational effectiveness and revenues and customer satisfaction while reducing capital, operating and support costs. This may be the largest challenge facing production enterprises these days. For this, maintenance strategy is required to be aligned with the production logistics and also to keep updated with the current best practices. Maintenance has become a multidisciplinary activity and one may come across situations in which maintenance is the responsibility of people whose training is not engineering. This handbook aims to assist at different levels of understanding whether the manager is an engineer, a production manager, an experienced maintenance practitioner or a beginner. Topics selected to be included in this handbook cover a wide range of issues in the area of maintenance management and engineering to cater for all those interested in maintenance whether practitioners or researchers. This handbook is divided into 6 parts and contains 26 chapters covering a wide range of topics related to maintenance management and engineering.*

*Safety, Reliability and Risk Analysis. Theory, Methods and Applications contains the papers presented at the joint ESREL (European Safety and Reliability) and SRA-Europe (Society for Risk Analysis Europe) Conference (Valencia, Spain, 22-25 September 2008). The book covers a wide range of topics, including: Accident and Incident Investigation; Crisis*

*This book explores the practical implementation of an advanced after-sales management framework devoted to warranty management. The framework is intended for companies producing either standardized or customized products and such a management tool will facilitate organizational improvement and support innovative decision making processes for technical assistance in after-sales services. "After-sales Service of Engineering Industrial Assets" comprises a proposal for a warranty management framework, with an account of the different methods that can be used to improve decision making in the different stages of the after-sales service management process, and strategies for strengthening the structure and foundations of the framework. A review of the fundamental issues and current research topics in warranty management and after sales services is also provided, which is exemplified by a case study. This book is intended for postgraduates, researchers and engineers who are interested in after sales management, assets engineering and warranty management.*

*This unique reference provides a structured approach for both the development of strategy and its implementation. It includes a catalog of indicators with their uses and weaknesses and a definitive guide to measuring the success of RCM programs.*

*Traditional, Latest, and Smart Views*

*The Maintenance Scorecard*

*Optimum Decision Making in Asset Management*

*Asset Maintenance Management in Industry*

*Selected Papers from ICOTTS 2021, Volume 1*

*Instrumenting, Analyzing, and Debugging Microservices*

*This book gathers selected peer-reviewed papers from the 15th World Congress on Engineering Asset Management (WCEAM), which was hosted by The Federal University of Mato Grosso do Sul Campo Grande, Brazil, from 15–18 August 2021 This book covers a wide range of topics in engineering asset management, including: strategy and standards; sustainability and resiliency; servitisation and Industry 4.0 business models; asset information systems; and asset management decision-making. The breadth and depth of these state-of-the-art, comprehensive proceedings make them an excellent resource for asset management practitioners, researchers, and academics, as well as undergraduate and postgraduate students.*

*During the last decade there have been increasing societal concerns over sustainable developments focusing on the conservation of the environment, the welfare and safety of the individual and at the same time the optimal allocation of available natural and financial resources. As a consequence the methods of risk and reliability analysis are becoming*

*eMaintenance: Essential Electronic Tools for Efficiency enables the reader to improve efficiency of operations, maintenance staff, infrastructure managers and system integrators, by accessing a real time computerized system from data to decision. In recent years, the exciting possibilities of eMaintenance have become increasingly recognized as a source of productivity improvement in industry. The seamless linking of systems and equipment to control centres for real time reconfiguring is improving efficiency, reliability, and sustainability in a variety of settings. The book provides an introduction to collecting and processing data from machinery, explains the methods of overcoming the challenges of data collection and processing, and presents tools for data driven condition monitoring and decision making. This is a groundbreaking new book which offers an introduction to collecting and processing data from machinery Explains how to use sensor-based tools to increase efficiency of diagnosis, prognosis, and decision-making in maintenance Describes methods for overcoming the challenges of data collection and processing*

*This book introduces readers to essential strategies, practices, and benchmarking for asset maintenance in operations intensive industries. Drawing on a case study from the oil and gas sector, it offers a methodology and practical solutions to help maintenance practitioners select and formulate an asset maintenance strategy, and to establish best maintenance practices at an organizational level using the frameworks developed here. It is intended for industry practitioners, young maintenance professionals, and students of engineering management who aspire to a career in operations intensive industries.*

*Nutritional Care of the Patient with Gastrointestinal Disease*

*Models and Methods for Complex Systems Maintenance*

*Digital Maintenance Management*

*Reliability, Risk, and Safety, Three Volume Set*

*The State of the Art in Europe from a Life Cycle Perspective*

*E-maintenance*

The fundamental motivation of this book is to contribute to the future advancement of Asset Management in the context of industrial plants and infrastructures. The book aims to foster a future perspective that takes advantage of value-based and intelligent asset management in order to make a step forward with respect to the evolution observed nowadays. Indeed, the current understanding of asset management is primarily supported by well-known standards. Nonetheless, as developed by industry and academia is not set in stone yet. Furthermore, current trends in new organizational concepts and technologies lead to an evolutionary path in the field. Therefore, this book aims to discuss this evolutionary path, starting first of all from the consolidated theory, then moving forward to discuss: • The strategic understanding of value-based asset management in a company. • An operational definition of value, as a concept on the background of value-based management, with the aim to frame a set of 'tools' recommended to support the asset-related decision-making process over the asset lifecycle. • The emergence of new technologies such as cyber physical systems and digital twins, and the implications of this on asset management.

Devising optimal strategy for maintaining industrial plant can be a difficult task of daunting complexity. This book aims to provide the plant engineer with a comprehensive approach for tackling this problem, that is, for deciding maintenance objectives, formulating equipment life plans and plant maintenance schedules, and others.

Many companies view maintenance as the last controllable function through which they have an opportunity to reduce costs. However, arbitrarily reducing the maintenance budget can lead to lower levels of operating capacity and reliability. This book provides an introduction to the concept of maintenance excellence and looks at all the distinct forms of maintenance. It examines the role of maintenance in minimizing the risk of safety or environmental incidents, adverse publicity and explains their applicability to specific situations, thereby helping one select the tool that best fits their own needs and circumstances. The Maintenance Management Framework describes and reviews the concept, process and framework of modern maintenance management of complex systems, concentrating specifically on modern modeling tools for maintenance planning and scheduling. It presents a new perspective of maintenance management by focusing on the course of maintenance for current maintenance managers, clarifying the functionality that is required from information technology when applied to maintenance and the functions of modern maintenance engineering and creating a set of practical models for maintenance management planning and scheduling. The discussion of all these issues is supported through the use of case studies. This book provides the reader with a concise yet informative description of all the various forms of maintenance management or facility. It also provides the tools needed to enhance effectiveness and efficiency in each kind of maintenance.

This work brings together knowledge from many parts of the world to provide theoretical and applied concepts, methodologies, and techniques that help diffuse skills required to create intelligent enterprises of the 21st century for gaining sustainable competitive advantage in a global environment.

Essential Electronic Tools for Efficiency

Theory, Methods and Applications (4 Volumes + CD-ROM)

Engineering Assets and Public Infrastructures in the Age of Digitalization

Life-Cycle Maintenance Management Framework for Concrete Bridge Elements

A Comprehensive Guide to Strategies, Practices and Benchmarking

The Maintenance Management Framework

*It is critical to improve the asset management system implementation as well as economics and industrial decision making to ensure that a business may move smoothly internally. Maintenance management should be aligned to the activities of maintenance in accordance with the comprehensive approach of an asset management process. After transforming the priorities of maintenance, maintenance managers will use their medium-team resources to focus on the maintenance of the equipment in accordance with these objectives. Cases on Optimizing the Asset Management Process explains and summarizes the processes and the reference frame necessary for the implementation of the Maintenance Management Model (MMM). This book acts as an overview of the current state of the art in asset management, providing innovative tools and practices from the fourth industrial revolution. Presenting topics like critically analysis, physical asset maintenance, and unified modelling language, this text is essential for industrial and manufacturing engineers, plant supervisors, academicians, researchers, advanced-level students, technology developers, and managers who make decisions in this field.*

*This book gathers selected peer-reviewed papers from the 14th World Congress on Engineering Asset Management (WCEAM), which was held in Singapore on 28-31 July 2019, as well as papers presented during the 1st WCEAMonline event which focused on the ramifications of Covid-19 on infrastructure systems. This book covers a wide range of topics in engineering asset management, including: asset management services provisioning; servitization; decision-making; asset management systems; industrial Internet of things; and vulnerability and resilience of infrastructure systems. The breadth and depth of these state-of-the-art, comprehensive proceedings make them an excellent resource for asset management practitioners, researchers and academics, as well as undergraduate and postgraduate students.*

*Uptime describes the combination of activities that deliver fewer breakdowns, improved productive capacity, lower costs, and better environmental performance. The bestselling second edition of Uptime has been used as a textbook on maintenance management in several postsecondary institutions and by many companies as the model framework for their maintenance management programs. Following in the tradition of its bestselling predecessors, Uptime: Strategies for Excellence in Maintenance Management, Third Edition explains how to deal with increasingly complex technologies, such as mobile and cloud computing, to support maintenance departments and set the stage for compliance with international standards for asset management. This updated edition reflects a far broader and deeper wealth of experience and knowledge. In addition, it restructures its previous model of excellence slightly to align what must be done more closely with how to do it. The book provides a strategy for developing and executing improvement plans that work well with the new values prevalent in today's workforce. It also explains how you can use seemingly competing improvement tools to complement and enhance each other. This edition also highlights action you can take to compensate for the gradual loss of skills in the current workforce as "baby boomers" retire.*

*The aim of this book is to cover various aspects of the Production and Operations Analysis. Apart from the introduction to basic understanding of each topic, the book will also provide insights to various conventional techniques as well as, various other mathematical and nature-based techniques extracted from the existing literature. Concepts like smart factories, intelligent manufacturing, and various techniques of manufacturing will also be included. Various types of numerical examples will also be presented in each chapter and the descriptions will be done in lucid style with figures, point-wise descriptions, tables, pictures to facilitate easy understanding of the subject.*

*Optimizing Equipment Life-Cycle Decisions*

*Engineering Asset Management*

*Theory and Applications*

*Uptime*

*COSO Enterprise Risk Management*

*After-sales Service of Engineering Industrial Assets*

*Maintenance Audits Handbook: A Performance Measurement Framework* explores the maintenance function and performance of an organization, and outlines the key aspects required for an effective and efficient maintenance performance measurement (MPM) system. Incorporating different aspects of traditional literature and considering various frameworks on the subject, it examines the auditing process as well as the use and development of maintenance metrics. It identifies different frameworks and models showcasing how MPM systems should be implemented as well as the values that are created when different frameworks are used. The book presents performance indicators within a framework that classifies and sorts according to functional and hierarchical aspects. It introduces techniques that can help determine the right set of performance indicators. It also outlines a process that combines both numerical indicators with the classical result of massive questionnaires successfully incorporating both the quantitative and qualitative aspects of maintenance performance. In addition, the author provides examples of MPM frameworks that are used in organizations with condition-based, vibration-based, and reliability-centered maintenance. A useful handbook for students and maintenance professionals, this book provides readers with an understanding of how to Align the organizational strategy to the functionalities of the maintenance performance measures to the different hierarchies of the organization and establish effective communication between them. Translate the MPis at operational level to the corporate level (to create value for the whole organization and its customers) Identify the weaknesses and strengths of the implemented maintenance strategy Maintenance Audits Handbook: A Performance Measurement Framework provides readers with a sound foundation for developing and measuring a comprehensive maintenance improvement strategy using qualitative and quantitative data, and serves as an ideal resource for maintenance/mechanical engineers, maintenance/performance/business/production managers and industry professionals involved in maintenance.

Business industries depend on advanced models and tools that provide an optimal and objective decision-making process. Ultimately guaranteeing improved competitiveness, reducing risk, and eliminating uncertainty. Thanks in part to the digital era of the modern world, reducing these conditions has become much more manageable. Advanced Models and Tools for Effective Decision Making Under Uncertainty and Risk Contexts provides research exploring the theoretical and practical aspects of effective decision making based not only on mathematical techniques, but also on those technological tools that are available nowadays in the Fourth Industrial Revolution. Featuring coverage on a broad range of topics such as industrial informatics, knowledge management, and production planning, this book is ideally designed for decision makers, researchers, engineers, academicians, and students.

This book promotes and describes the application of objective and effective decision making in asset management based on mathematical models and practical techniques that can be easily implemented in organizations. This comprehensive and timely publication will be an essential reference source, building on available literature in the field of asset management while laying the groundwork for further research breakthroughs in this field. The text provides the resources necessary for managers, technology developers, scientists and engineers to adopt and implement better decision making based on models and techniques that contribute to recognizing risks and uncertainties and, in general terms, to the important role of asset management to increase competitiveness in organizations.

In the past decades asset intensive companies have witnessed a number of regulatory changes and especially industry is facing ever increasing competitiveness. To overcome these challenges different asset management methods have been developed aimed to improve the asset life cycle. Especially the design phase and operation and maintenance phase have seen a rise in tools and methods. Smarter design can lead to improved operation. Likewise, improved operation and maintenance leads to lower replacement costs and may provide the basis for better design. This book brings together and coherently presents the current state of the art in asset management research and practice in Europe from a life cycle perspective. Each chapter focuses on specific parts of this life cycle and explains how the methods and techniques described are connected and how they improve the asset life cycle, thus treating this important subject from a unique perspective.

Advances in Tourism, Technology and Systems

Advanced Models and Tools for Effective Decision Making Under Uncertainty and Risk Contexts

Handbook of Maintenance Management and Engineering

Maintenance Excellence

Maintenance Strategy

Maintenance Audits Handbook

Engineering Asset Management discusses state-of-the-art trends and developments in the emerging field of engineering asset management as presented at the Fourth World Congress on Engineering Asset Management (WCEAM). It is an excellent reference for practitioners, researchers and students in the multidisciplinary field of asset management, covering such topics as asset condition monitoring and intelligent maintenance; asset data warehousing, data mining and fusion; asset performance and level-of-service models; design and life-cycle integrity of physical assets; deterioration and innovation models for assets; education and training in asset management; engineering standards in asset management; fault diagnosis and prognostics; financial analysis methods for physical assets; human dimensions in integrated asset management; information quality management; information systems and knowledge management; intelligent sensors and devices; maintenance strategies in asset management; optimisation decisions in asset management; risk management in asset management; strategic asset management; and sustainability in asset management.

Considering maintenance from a proactive, rather than reactive, perspective, Maintenance Excellence details the strategies, tools, and solutions for maximizing the productivity of physical assets—focusing on profitability potential. The editors address contemporary concerns, key terms, data requirements, critical methodologies, and essential mathematical needs. They present maintenance in a business context, review planning, measurement, feedback, and techniques related to cost, efficiency, and results, and summarize applications of tools and software from statistics and neural networks to cost-optimized models.

E-maintenance is the synthesis of two major trends in today' s society: the growing importance of maintenance as a key technology and the rapid development of information and communication technology. E-maintenance gives the reader an overview of the possibilities offered by new and advanced information and communication technology to achieve efficient maintenance solutions in industry, energy production and transportation, thereby supporting sustainable development in society. Sixteen chapters cover a range of different technologies, such as: new micro sensors, on-line lubrication systems, smart tags for condition monitoring, wireless communication and smart personal digital assistants. E-maintenance also discusses semantic data-structuring solutions; ontology structured communications; implementation of diagnostics and prognostics; and maintenance decision support by economic optimisation. It includes four industrial cases that are both described and analysed in detail, with an outline of a global application solution. E-maintenance is a useful tool for engineers and technicians who wish to develop e-maintenance in industrial sites. It is also a source of new and stimulating ideas for researchers looking to make the next step towards sustainable development.

In order to satisfy the needs of their customers, network utilities require specially developed maintenance management capabilities. Maintenance Management information systems are essential to ensure cost, gain knowledge and improve-decision making in companies dealing with network infrastructure, such as distribution of gas, water, electricity and telecommunications. Maintenance Management in Network Utilities studies specified characteristics of maintenance management in this sector to offer a practical approach to defining and implementing the best management practices and suitable frameworks. Divided into three major sections, Maintenance Management in Network Utilities defines a series of stages which can be followed to manage maintenance frameworks properly. Different case studies provide detailed descriptions which illustrate the experience in real company situations. An introduction to the concepts is followed by main sections including: •A Literature Review: covering the basic concepts and models needed for framework design, development and implementation. •Framework Design and Definition: developing the basic pillars of network utilities maintenance management framework. •Performance Evaluation & Maturity: focusing on the reliability concept and maturity models from different viewpoints. By establishing basic foundations for creating and maintaining maintenance managements strategies, Maintenance Management in Network Utilities acts a practical handbook for all professionals in these companies and across areas such as network development, operations management and marketing.

A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management (RUSSIAN)

14th WCEAM Proceedings

Maintenance Management  
Maintenance Management in Network Utilities  
Proceedings of the 13th World Congress on Engineering Asset Management  
Asset Management

"This book explains and summarizes the processes (course of actions and the number of stages or steps to follow) and the reference frame (the essential support structure and the basic system) necessary for the implementation of the introduced maintenance management model (MMM) and will help managers, technology developers, scientists and engineers to adopt and implement optimum decision making based on techniques of maintenance and reliability in organizations"--

PMBOK® Guide is the go-to resource for project management practitioners. The project management profession has significantly evolved due to emerging technology, new approaches and rapid market changes. Reflecting this evolution, The Standard for Project Management enumerates 12 principles of project management and the PMBOK® Guide – Seventh Edition is structured around eight project performance domains. This edition is designed to address practitioners' current and future needs and to help them be more proactive, innovative and nimble in enabling desired project outcomes. This edition of the PMBOK® Guide:•Reflects the full range of development approaches (predictive, adaptive, hybrid, etc.);•Provides an entire section devoted to tailoring the development approach and processes;•Includes an expanded list of models, methods, and artifacts;•Focuses on not just delivering project outputs but also enabling outcomes; and• Integrates with PMIstandards+™ for information and standards application content based on project type, development approach, and industry sector.

Beyond the Horizon  
Safety, Reliability and Risk Analysis  
Creating Strategic Advantage  
A Performance Measurement Framework