Production Planning Cost Estimation In Mechanical Engineering

Just as no man is an island, so no business can operate without being part of a network of businesses proactively collaborating and sharing information for mutual success. This book presents some of the latest thinking on collaborative systems by leading experts in the field.

The intersection of supply chain management and e-business information systems is a significant topic for the modern business world as understanding which technologies will most effectively enable innovative practices is a key management competency. Innovations in Supply Chain Management for Information Systems: Novel Approaches presents exemplary research on the interface between these two fields, useful to academicians and practitioners keen on streamlining concurrently both information and materials flows across the supply chains. This advanced publication provides recent examinations as well as future directions of development.

The general understanding of design is that it should lead to a manufacturable product. Neither the design nor the process of manufacturing is perfect. As a result, the product will be faulty, will require testing and fixing. Where does economics enter this scenario? Consider the cost of testing and fixing the product. If a manufactured product is grossly faulty, or too many of the products are faulty, the cost of testing and fixing will be high. Suppose we do not like that. We then ask what is the cause of the faulty product. There must be something wrong in the manufacturing process. We trace this cause and fix it. Suppose we fix all possible causes and have no defective products. We would have eliminated the need for testing. Unfortunately, things are not so perfect. There is a cost involved with finding and eliminating the causes of faults. We thus have two costs: the cost of testing and fixing (we will call it cost-1), and the cost of finding and eliminating causes of faults (call it cost-2). Both costs, in some way, are included in the overall cost of the product. If we try to eliminate cost-1, cost-2 goes up, and vice versa. An economic system of production will minimize the overall cost of the product. Economics of Electronic Design, Manufacture and Test is a collection of research contributions derived from the Second Workshop on Economics of Design, Manufacture and Test, written for inclusion in this book.

This book concentrates on real-world production scheduling in factories and industrial settings. It includes industry case studies that use innovative techniques as well as academic research results that can be used to improve production scheduling. Its purpose is to present scheduling principles, advanced tools, and examples of innovative scheduling systems to persons who could use this information to improve their own production scheduling.

RajB KNRao Conference Director, Birmingham Polytechnic Condition Monitoring and Diagnostic Engineering Management (COMADEM) is a relatively new field that has already made its mark in a wide range of industries. But all the signs are that even more will be required of researchers in the field over the next decade, for COMADEM directly addresses a whole range of issues that are likely to become increasingly important to companies as competitiveness increases along with the uncertainties resulting from rapid technological change. Already for example, businesses are having to scrutinize the economics of plant and machinery in greater detail than ever before; reliability is becoming a crucial factor as the costs of unscheduled breakdowns rise and there is increasing pressure on companies to demonstrate and assure improved health and safety conditions, especially in light of the growing number of catastrophic accidents that have occured throughout the world. Because it offers solutions to these and similar problems, COMADEM is now gaining an international reputation as a problem-solving, user-friendly and financially beneficial multi-discipline with immense potential. Many people at the senior management level are now convinced that COMADEM has much to offer and are wasting no time in reaping maximum benefit from the latest developments. The fact that the first UK informal seminar on COMADEM - COMADEM 88 - proved to be a great success and had a truly international flavour reflected this growing interest in the new field.

The first edition of this book appeared in the Federal Republic of Gennany in 1984. and in English translation as "Computer: A Challenge for Business Administration" in 1985. This book. which is a translation of the fourth Gennan edition. has been comprehensively revised. As a result both the character and the expected audience of the book have changed. which is reflected in the alteration to the title. This book adresses itself to issues arising from the research areas of both infonnation systems and computer science. Computer science departments are primarily concerned with the development of EDP techniques. and the business economics aspects remain largely Ignored. The emphasis in infonnation systems departments is placed on the investigation of the business economic impact of the use of already existing systems. This strongly empirical approach is accompanied by a disinclination to consider actual system deSign: this is considered the responsibility of the software houses. This partitioning. however. leaves untapped the considerable potential which could be realized by an interdisciplinary approach from computer science and business economics. An isolated approach neglects both the effects that business economics can have on the implementation of EDP techniques. and the structural impact of EDP on business economics.

This Edition Of Process Planning And Cost Estimation Based On The Latest Syllabus For B.E/B.Tech. Mechanical And Production Engineering For Anna University As Well As Other Universities. It Is A Valuable Assert For Entrepreneurs, Training Managers Of Various Mechanical Workshops And Diploma Students.This Book Is An Attempt To Provide All Necessary Information About Process Planning And Cost Estimation. The Subject Matter Has Been Presented In A Simple And Systematic Way With Numerous Diagrams And Illustrations So As To Enable Thorough Understanding Of The Topics.

This book presents innovative and high-quality research regarding advanced decision support systems (DSSs). It describes the foundations, methods, methodologies, models, tools, and techniques for designing, developing, implementing and evaluating advanced DSSs in different fields, including finance, health, emergency management, industry and pollution control. Decision support systems employ artificial intelligence methods to heuristically address

problems that are cannot be solved using formal techniques. In this context, technologies such as the Semantic Web, linked data, big data, and machine learning are being applied to provide integrated support for individuals and organizations to make more rational decisions. The book is organized into two parts. The first part covers decision support systems for industry, while the second part presents case studies related to clinical emergency management and pollution control.

Despite the numerous competitive advantages of one-of-a-kind production (OKP), the low efficiency and high costs associated with OKP companies threaten to push their business opportunities into the hands of cheaper overseas suppliers. One-of-a-Kind Production introduces a novel strategy and technology to help OKP companies to efficiently mass-produce customized products. In One-of-a-Kind Production, case studies from OKP companies are used to validate the feasibility and effectiveness of the OKP strategy and technology. These case studies include: a structural steel construction company, a manufacturer of specifically ordered compressors and refrigeration systems, a customized high pressure vessel manufacturing company, and a custom window and door manufacturer. To help readers understand OKP strategy and technology, the authors offer a year’s free access to the OKP Management and Control Software System. This system is based on a new integrated production control and management concept, namely product production structure. It is a useful tool – and One-of-a-Kind Production is a valuable guide – for production engineers and managerial staff in manufacturing companies, as well as for university researchers and graduate students.

Customers of a steel manufacturing company now order a large number of low volume orders instead of a small number of high volume orders as they would have done just a few decades ago. The change in customer expectations has complicated production planning and scheduling within a steel manufacturing company. The aim of this research is to improve production planning and scheduling capability in steelmaking using one of the popular simulation techniques, called discrete event simulation. In this research it is observed that there are three major areas that need attention to improve production planning and scheduling capability. First, selection of optimal schedules and plans based on throughput, production time, stock size, and other production processing criteria. Next, incorporating cost into the criteria to select the schedules and plans will make the planning more cost effective and realistic at the same time. In addition, with the increased use of discrete event simulation modelling, there is a need to improve the model development efficiency and make the process less reliant on practitioners' experience and capabilities, in order to improve the overall planning and scheduling capability. This thesis presents frameworks to address the three major areas for the capability improvement. This research adapts a systematic approach to validation. Theoretical, realisation, and empirical parts of the research were separately validated. Real life case studies were used for validation of each proposed framework. Discrete event simulation can improve the accuracy of production planning & scheduling and cost estimation for complex production systems. GA-based multi-objective optimisation can be successfully applied to optimisation of plans and schedules. Production planning and scheduling optimisation for some production areas provides a challenging problem to GAs. Cost estimation in the steel manufacturing company needs improvement because of the current lack of accurate costs of product families that affects quality of price management. The developed cost estimation technique is capable of providing more realistic cost for product families. The cost estimation technique would be useful for companies operating on volume-driven manufacturing processes rather than on unit-driven. Conceptual modelling needs to be improved in order to achievein model development efficiency and to make the process less reliant on practitioners' experience and capabilities. A formal information collection process can aid conceptual modelling of production systems by further development of DES models for cost estimation.

As a concept, Concurrent Engineering (CE) initiates processes with the goal of improving product quality, production efficiency and overall customer satisfaction. Services are becoming increasingly important to the economy, with more than 60% of the GDP in Japan, the USA, Germany and Russia deriving from service-based activities. The definition of a product has evolved from the manufacturing and supplying of goods only, to providing goods with added value, to eventually promoting a complete service business solution, with support from introduction into service and from operations to decommissioning. This book presents the proceedings of the 20th ISPE International Conference on Concurrent Engineering, held in Melbourne, Australia, in September 2013. The conference had as its theme Product and Service Engineering in a Dynamic World, and the papers explore research results, new concepts and insights covering a number of topics, including service engineering, cloud computing and digital manufacturing, knowledge-based engineering and sustainability in concurrent engineering.

Advances in Manufacturing Technology XVI provides a comprehensive collection of papers exploring the very latest developments in the field of manufacturing engineering and managment and incorporates the most up-to-date techniques. TOPICS COVERED INCLUDE: Business strategies process reengineering CAD/CAM and concurrent engineering E-manufacturing and virtual reality Engineering modelling and simulations Total quality management and metrology Intelligent systems. robotics and automation Lean and agiel manufacturing Machining process and tooling Operations management Process control and condition monitoring Covering all aspects of manufacturing engineering, systems, and management this volume will be of great interest to those wanting to keep abreast pf current research and those involved in the planning stages in this area of engineering.

This thesis shows how utilising dynamic simulation to estimate unit costs and manufacturing resources, can aid design decisions. A framework specification is introduced that integrates Computer Aided Design (CAD), Discrete Event Simulation (DES) and Activity Based Cost (ABC) methodology. The framework aids a design team in understanding the consequences of design decisions in terms of unit cost and manufacturing resources, by returning aggregated unit cost and manufacturing based data, directly to the design team, within the design environment. Dynamic Resource Estimation System (DRES) has been developed to implement the framework and conduct two case studies based on representative aerospace components. The purpose of the first case study is to determine the benefits and applications of integrating a dynamic supply chain simulation and unit cost estimation. The second case study is used to show that the framework is capable of handling significantly different components and to highlight the effort required to implement a new component within the framework. This thesis concludes that there are three primary benefits provided by the framework, which are: firstly, the framework can accurately predict required resources to fulfil a supply chain for a specific production rate, which can be utilised by manufacturing engineers to aid production planning; secondly, the framework increases refinement of a component unit cost estimate, by including manufacturing time and dynamically determined resource requirements into an ABC cost model; and thirdly, the framework has the ability to compare multiple supply chain options and different supply chain types at the same time from component geometry.

This comprehensive text is primarily designed for BE/BTech students of mechanical engineering, manufacturing engineering, and production engineering. This text consists of 11 chapters covering concepts and techniques of process planning and cost estimation. The text is supported by well-labelled diagrams and case studies. The book contains solved problems that facilitates students to understand the concepts quickly. At the end of each chapter, theoretical questions and applicable numerical problems are given to test the understanding of the readers. Key features • Includes classification and coding systems with fitting examples • Contains a complete account of work study • Provides detailed coverage of process planning • Gives formulas of mensuration for material cost estimation • Introduces different manufacturing processes in relevant chapters

"This book offers an outlook of the most recent works at the field of the Artificial Neural Networks (ANN), including theoretical developments and applications of systems using intelligent characteristics for adaptability"--Provided by publisher.

Advances in Manufacturing Technology XVII continues a well-respected series with the papers presented at the 1st International Conference on Manufacturing Research (ICMR 2003) - incorporating the 19th National Conference on Manufacturing Research (NCMR). This essential text provides a thorough review of all aspects of manufacturing engineering and management and will be of interest to all those involved in this rapidly advancing sphere of mechanical and manufacturing engineering. Topics covered include Machining Processes and Tooling Forming Processes and Tools Advanced Manufacturing Techniques Advanced Manufacturing Systems Design Methods, Processes, and Systems CAD/CAM Testing/Experimentation/Metrology Internet and E-design/Manufacture Virtual Enterprise and Enterprise Integration

This is the second part of a four part series that covers discussion of computer design tools throughout the design process. Through this book, the reader will... ...understand basic design principles and all digital design paradigms. ...understand CAD/CAE/CAM tools available for various design related tasks. ...understand how to put an integrated system together to conduct All Digital Design (ADD). ...understand industrial practices in employing ADD and tools for product development. Provides a comprehensive and thorough coverage of essential elements for product manufacturing and cost estimating using the computer aided engineering paradigm Covers CAD/CAE in virtual manufacturing, tool path generation, rapid prototyping, and cost estimating; each chapter includes both analytical methods and computer-aided design methods, reflecting the use of modern computational tools in engineering design and practice A case study and tutorial example at the end of each chapter provides hands-on practice in implementing off-the-shelf computer design tools Provides two projects at the end of the book showing the use of Pro/ENGINEER® and SolidWorks® to implement concepts discussed in the book

Objective of conference is to define knowledge and technologies needed to design and develop project processes and to produce high-quality, competitive, environment- and consumer-friendly structures and constructed facilities. This goal is clearly related to the development and (re)-use of quality materials, to excellence in construction management and to reliable measurement and testing methods.

In today's hypercompetitive global marketplace, accurate costestimating is crucial to bottom-line results. Nowhere is this moreevident than in the design and development of new products andservices. Among managing engineers responsible for developingrealistic cost estimates for new product designs, the number-onesource of information and guidance has been the Cost Estimator'sReference Manual. Comprehensive, authoritative, and practical, the Manual instructsreaders in the full range of cost estimating techniques andprocedures currently used in the fields of development, testing,manufacturing, production, construction, software, generalservices, government contracting, engineering services, scientificprojects, and proposal preparation. The authors clearly explain howto go about gathering the data essential to preparing a realisticestimate of costs and guide the reader step by step through eachprocedure. This new Second Edition incorporates a decade of progress in themethods, procedures, and strategies of cost estimating. All thematerial has been updated and five new chapters have been added toreflect the most recent information on such increasingly importanttopics as activity-based costing, software estimating,design-to-cost techniques, and cost implications of new concurrentengineering and systems engineering approaches to projects. Indispensable to virtually anyone whose work requires accurate costestimates, the Cost Estimator's Reference Manual will be especiallyvaluable to engineers, estimators, accountants, and contractors ofproducts, projects, processes, and services to both government andindustry. The essential ready-reference for the techniques, methods, andprocedures of cost estimating COST ESTIMATOR'S REFERENCE MANUAL Second Edition Indispensable for anyone who depends on accurate cost estimates forengineering projects, the Cost Estimator's Reference Manual guidesthe user through both the basic and more sophisticated aspects ofthe estimating process. Authoritative and comprehensive, the Manualseamlessly integrates the many functions--accounting, financial,statistical, and management--of modern cost estimating practice.Its broad coverage includes estimating procedures applied to suchareas as: * Production * Software * Development * General services * Testing * Government contracting * Manufacturing * Engineering * Proposal preparation * Scientific projects * Construction This updated and expanded Second Edition incorporates all the mostimportant recent developments in cost estimating, such asactivity-based costing, software estimating, design-to-costtechniques, computer-aided estimating tools, concurrentengineering, and life cycle costing. For engineers, estimators, accountants, planners, and others whoare involved in the cost aspects of projects, the Cost Estimator'sReference Manual is an invaluable information source that will payfor itself many times over.

Process Planning And Cost EstimationProcess Planning and Cost EstimationNew Age InternationalPROCESS PLANNING AND COST ESTIMATIONPHI Learning Pvt. Ltd.

This Book Is Specially Designed For B.Tech And Mba Students. It Explains In A Simple But Thorough Manner, The Fundamental Concepts And Techniques Involved In Both Production And Operations Management. Sufficient Examples Are Included Throughout The Text To Illustrate These Concepts And Techniques.

Although the design and management of manufacturing systems have been explored in the literature for many years now, they still remain topical problems in the current scientific research. The changing market trends, globalization, the constant pressure to reduce production costs, and technical and technological progress make it necessary to search for new manufacturing methods and ways of organizing them, and to modify manufacturing system design paradigms. This book presents current research in different areas connected with the design and management of manufacturing systems and covers such subject areas as: methods supporting the design of manufacturing systems, methods of improving maintenance processes in companies, the design and improvement of manufacturing processes, the control of production processes in modern manufacturing systems production methods and techniques used in modern manufacturing systems and environmental aspects of production and their impact on the design and management of manufacturing systems. The wide range of research findings reported in this book confirms that the design of manufacturing systems is a complex problem and that the achievement of goals set for modern manufacturing systems requires interdisciplinary knowledge and the simultaneous design of the product, process and system, as well as the knowledge of modern manufacturing and organizational methods and techniques.

Competence in investment analysis is now a basic requirement for most practicing managers, engineers, and financial analysts in order to avoid possible serious mistakes arising from flawed or inadequate knowledge of the discipline. Furthermore, individuals who make decisions based on technical economics stake their professional futures, in many cases, on the accuracy of such evaluations. The aim of this volume is to provide a balanced view of the essential components of economic and financial analysis including: 1. Strategic and design issues; 2. Principles of cost management systems and activity-based costing, and; 3. Tools for developing the financial measures of investment worth, with advanced topics and case studies in these three areas. This volume provides a refreshing insight into the various methods that engineers, managers, and financial analysts may need to consider to find good alternatives for the investment of scarce resources. Not only are new ventures presented, but also improvements within existing facilities that include process modification, product design, equipment replacement, and plant expansion/contraction.

Concurrent Engineering is based on the concept that different phases of a product life cycle should be conducted concurrently and initiated as early as possible within the Product Creation Process (PCP). Its main goal is to increase the efficiency and effectiveness of the PCP and reduce errors in the later stages, and to incorporate considerations for the full lifecycle, through-life operations, and environmental issues of the product. It has become the substantive basic methodology in many industries, and the initial basic concepts have matured and become the foundation of many new ideas, methodologies, initiatives, approaches and tools. This book presents the proceedings of the 24th ISPE Inc. International Conference on Transdisciplinary (formerly: Concurrent) Engineering (TE 2017), held in Singapore, in July 2017. The 120 peer-reviewed papers in the book are divided into 16 sections: air transport and traffic operations and management; risk-aware supply chain intelligence; product innovation and marketing management; human factors in design; human engineering; design methods and tools;

decision supporting tools and methods; concurrent engineering; knowledge-based engineering; collaborative engineering; engineering for sustainability; service design; digital manufacturing; design automation; artificial intelligence and data analytics; smart systems and the Internet of Things. The book provides a comprehensive overview of recent advances in transdisciplinary concurrent engineering research and applications, and will be of interest to researchers, design practitioners and educators working in the field.

Life cycle engineering explores technologies for shifting industry from mass production and consumption paradigms to closed-loop manufacturing paradigms, in which required functions are provided with the minimum amount of production. This subject is discussed from various aspects: life cycle design, design for environment, reduce-reuse-recycle, life cycle assessment, and sustainable business models. This book collects papers from the 14th International CIRP Life Cycle Engineering Conference, the longest-running annual meeting in the field.

This book focuses on the intelligent application of advanced information technology tools (such as CAD and KBES) to design and planning in construction. It describes and explains the current applications of computer tools, presents new ideas for their use in design and planning processes, and in particular, concentrates on the preliminary design stage. Computer Integrated Planning and Design for Construction aims to demonstrate the implementation of these ideas and uncover the extraordinary opportunities for design improvement as a result.

Aircraft Design explores fixed winged aircraft design at the conceptual phase of a project. Designing an aircraft is a complex multifaceted process embracing many technical challenges in a multidisciplinary environment. By definition, the topic requires intelligent use of aerodynamic knowledge to configure aircraft geometry suited specifically to the customer's demands. It involves estimating aircraft weight and drag and computing the available thrust from the engine. The methodology shown here includes formal sizing of the aircraft, engine matching, and substantiating performance to comply with the customer's demands and government regulatory standards. Associated topics include safety issues, environmental issues, material choice, structural layout, understanding flight deck, avionics, and systems (for both civilian and military aircraft). Cost estimation and manufacturing considerations are also discussed. The chapters are arranged to optimize understanding of industrial approaches to aircraft design methodology. Example exercises from the author's industrial experience dealing with a typical aircraft design are included.

The CE Conference series is organized annually by the International Society for Productivity Enhancement (ISPE) and constitutes an important forum for international scientific exchange on concurrent and collaborative enterprise engineering. These international conferences attract a significant number of researchers, industrialists and students, as well as government representatives, who are interested in the recent advances in concurrent engineering research and applications. Concurrent Engineering Approaches for Sustainable Product Development in a Multi-Disciplinary Environment: Proceedings of the 19th ISPE International Conference on Concurrent Engineering contains papers accepted, peer reviewed and presented at the annual conference held at the University of Applied Sciences in Trier, Germany, from 3rd-7th of September 2012. This covers a wide range of cutting-edge topics including: Systems Engineering and Innovation Design for Sustainability Knowledge Engineering and Management Managing product variety Product Life-Cycle Management and Service Engineering Value Engineering

Production planning, inventory management, quality control, and maintenance policy are critical components of the manufacturing system. The effective integration of these four components gives a manufacturing operation the competitive edge in today's global market place. Integrated Models in Production Planning, Inventory, Quality, and Maintenance provides, in one volume, the latest developments in the integration of production, quality, and maintenance models. Prominent researchers, who are actively engaged in these areas, have contributed the topical chapters focused on the most recent issues in the area. In Part I, Ben-Daya and Rahim provide an overview of the literature dealing with integrated models for production, quality, and maintenance. Directions for future research are outlined. Part II contains six chapters (chapters 2 to 6) dealing with integrated models for production and maintenance. Part III deals with integrated production/inventory and quality models in chapters 7-11. Part IV focuses on quality and maintenance integrated models and contains two chapters. Part V deals with warranty, manufacturing, and quality and contains two chapters. Part VI addresses issues related to quality and contains three chapters (chapters 16-18).

Migrating from paper-based to electronic documentation is a task that needs careful planning. Electronic texts offer new ways to store, retrieve, update, and cross-link information. Hypermedia documents, in which texts are cross-linked via keywords and in which audio and video files may also be integrated, require new levels of organization and strict discipline from authors, editors, and managers. As documents become "living" their document managers must control access, privileges, interconnections, segmentation, and flexibility for different readers. This book introduces and surveys these new developments. Based on a wealth of experience in large hypermedia projects, it provides a step-by-step guide to all aspects of hypermedia development, from strategic decision-making to editing formats and production methods.

Gain a full understanding of the latest updates to the manufacturing and control paradigm, including the challenges and opportunities posed by supply chain management and sustainability trends, with Benton's SUPPLY CHAIN FOCUSED MANUFACTURING & PLANNING CONTROL. This unique book parallels the objective of supply-chain focused manufacturing planning and control systems within businesses today. The author uses his extensive expertise to skillfully demonstrate how successful businesses design products to be manufactured at the right time, in the right quantities, and following quality specifications in the most cost-efficient manner. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This book constitutes the refereed proceedings of the IFIP TC 5 International Conference on Digital Product and Process Development Systems, NEW PROLAMAT 2013, held in Dresden, Germany, in October 2013. The conference succeeds the International Conference on Programming Languages for Machine Tools, PROLAMAT 2006, held in Shanghai, China in 2006. In order to demonstrate the new orientation toward IT innovations, the acronym PROLAMAT has been changed into NEW PROLAMAT and is now interpreted as Project Research on Leading-Edge Applications and Methods for Applied Technology. The 42 revised papers were carefully reviewed and selected for inclusion in the volume. They have been organized in the following topical sections: digital product and process development; additive manufacturing; quality management; standardization and knowledge management developments; and simulation of procedures and processes.

This book constitutes the refereed proceedings of the 9th International Conference on Product Focused Software Process Improvement, PROFES 2008, held in Monte Porzio Catone, Italy, in June 2008. The 31 revised full papers presented together with 4 reports on workshops and tutorials and 3 keynote addresses were carefully reviewed and selected from 61 submissions. The papers address different development modes, roles in the value chain, stakeholders' viewpoints, collaborative development, as well as economic and quality aspects. The papers are organized in topical sections on quality and measurement, cost estimation, capability and maturity models, systems and software quality, software process improvement, lessons learned and best practices, and agile software development.

Modern information technology has opened up new possibilities of flexibilization and cost reduction in production. The author defines CIM - Computer Integrated Manufacturing - as a concept for the structuring of industrial enterprises. Manufacturing technologies demand a CIM concept which can be realized through the capabilities of information processing available today. The idea of integrating different areas of CIM, such as production planning and control (PPC), computer aided design (CAD) and computer aided manufacturing (CAM), is explained through operating chains and put into a CIM architecture based on a hierarchy

of EDP systems. The stance taken in this book of defining CIM as a total concept for industrial enterprises is increasingly gaining ground. The book does not aim to put the functional details of the individual CIM components (PPC, CAD, CAP and CAM) in the foreground, but rather to emphasize the integration principles for the functional demands of the individual components. This book appeared in the Federal Republic of Germany in 1987, and within one year it had run to three editions. The author contributes to this book not only his scientific knowledge but also his experience as a consultant for implementing CIM concepts.

Feature-based technology is the key factor towards meeting the increasingly high demands of improving and speeding up the product development process from concept to customer feedback, and is therefore expected to be able to provide for a better approach to integrate the complete product design process chain. Feature Based Product Life-Cycle Modelling is dedicated to exploring the progress towards an integrated solution for the product creation process based on feature technology. Hence, it encompasses significant phases of the product creation process, from conceptual design to recycling, including the following topics: *Life-phases modelling; *Knowledge based engineering; *Multiple-view geometric modelling; *Technological links among assemblies; *Manufacturing process cost estimation; *Manufacturing modelling; *Machining preparation; *Product deterioration prediction; *Product recovery estimation. For each topic, a state of the art, theoretic bases, tentative solutions and illustrative examples are detailed, demonstrating the successful application of feature technology to the modelling of innovative products and the efficient control of their design. The book is a selection of proceedings from the International Conference on Feature Modelling in Advanced Design-for-the-Life-Cycle Systems (FEATS 2001), which was sponsored by the International Federation for Information Processing (IFIP) and held in Valenciennes, France in June 2001.

This practical reference/text provides a thorough overview of cost estimating as applied to various manufacturing industries, with special emphasis on metal manufacturing concerns. It presents examples and study problems illustrating potential applications and the techniques involved in estimating costs.;Containing both US and metric units for easy conversion of world-wide manufacturing data, Estimating and Costing for the Metal Manufacturing Industries: outlines professional societies and publications dealing with cost estimating and cost analysis; details the four basic metalworking processes - machining, casting, forming, and joining; reveals five techniques for capital cost estimating, including the new AACE International's Recommended Practice 16R-90 and the new knowledge and experience method; discusses the effect of scrap rates and operation costs upon unit costs; offers four formula methods for conceptual cost estimating and examines material-design-cost relationships; describes cost indexes, cost capacity factors, multiple-improvement curves, and facility cost estimation techniques; offers a generalized metal cutting economics model for comparison with traditional economic models; and more.;Estimating and Costing for the Metal Manufacturing Industries serves as an on-the-job, single-source reference for cost, manufacturing, and industrial engineers and as a text for upper-level undergraduate, graduate, and postgraduate students in cost estimating, engineering economics, and production operations courses.;A Solutions manual to the end-of-chapter problems is available free of charge to instructors only. Requests for the manual must be made on official school stationery.

This work is the result of the proceedings of the 10th Annual Conference '94: ESPRIT CIM-Europe. It reports on the results in development and implementation of CIM technologies. The key technologies which are being developed, and the results emerging from the collaborative projects, have contributed to the establishment of an integrative approach to manufacturing problems which embraces engineering, logistics, process automation, business functions, organizational and environmental concerns.

This book gathers the latest advances, innovations, and applications in the field of information technology in civil and building engineering, presented at the 18th International Conference on Computing in Civil and Building Engineering (ICCCBE), São Paulo, Brazil, August 18-20, 2020. It covers highly diverse topics such as BIM, construction information modeling, knowledge management, GIS, GPS, laser scanning, sensors, monitoring, VR/AR, computer-aided construction, product and process modeling, big data and IoT, cooperative design, mobile computing, simulation, structural health monitoring, computer-aided structural control and analysis, ICT in geotechnical engineering, computational mechanics, asset management, maintenance, urban planning, facility management, and smart cities. Written by leading researchers and engineers, and selected by means of a rigorous international peer-review process, the contributions highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaborations.