Nx Topology Optimization Siemens

Innovation contributes to corporate competitiveness, economic performance and environmental sustainability. In the Internet era, innovation intelligence is transferred across borders and languages at an unprecedented rate, yet the ability to benefit from it seems to become more divergent among different corporations and countries. How much an organization can benefit from innovation largely depends on how well innovation is managed in it. Thus, there is a discernible increase in interest in the study of innovation management. This handbook provides a comprehensive guide to this subject. The handbook introduces the basic framework of innovation and innovation management. It also presents innovation management from the perspectives of strategy, organization and resource, as well as institution and culture. The book’s comprehensive coverage on all areas of innovation management makes this a very useful reference for anyone interested in the subject.

Additive Manufacturing TechnologiesSpringer Nature

Additive Fertigungsverfahren ermöglichen aufgrund ihrer geometrischen Freiheitsgrade die Herstellung komplexer, optimierter Produkte. Trotzdem sind in der Anwendung der Technologie zahlreiche Potentiale noch nicht erschlossen. In der vorliegenden Arbeit wird eine Methodik zur technischen und wirtschaftlichen Bewertung von Potentialen in der additiven Fertigung sowie deren Erschließung über eine cloudbasierte Plattformlösung vorgestellt. Die Evaluierung eines dafür entwickelten Prototyps zeigt die hohe Leistungsfähigkeit der Methodik, effizient, effektiv und transparent Potentiale in der additiven Fertigung zu erkennen und wirtschaftliche Anwendungsfälle zu erschließen.

In the past decade, feature-based design and manufacturing has gained some momentum in various engineering domains to represent and reuse semantic patterns with effective applicability. However, the actual scope of feature application is still very limited. Semantic Modeling and Interoperability in Product and Process Engineering provides a systematic solution for the challenging engineering informatics field aiming at the enhancement of sustainable knowledge representation, implementation and reuse in an open and yet practically manageable scale. This semantic modeling technology supports uniform, multi-facet and multi-level collaborative system engineering with heterogeneous computer-aided tools, such as CADCAM, CAE, and ERP. This presented unified feature model can be applied to product and process representation, development, implementation and management. Practical case studies and test samples are provided to illustrate applications which can be implemented by the readers in real-world scenarios. By expanding on well-known feature-based design and manufacturing approach, Semantic Modeling and Interoperability in Product and Process Engineering provides a valuable reference for researchers, practitioners and students from both academia and engineering field.

These proceedings exchange ideas and knowledge among engineers, designers and managers on how to support real-world value chains by developing additive manufactured series products. The papers from the conference show a holistic, multidisciplinary view.

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This open access book gathers contributions presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2020), held as a web conference on June 2-4, 2020. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is organized into four main parts, reflecting the focus and primary themes of the conference. The contributions presented here not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed and future interdisciplinary collaborations.

This book reports on cutting-edge design methods and tools in industrial engineering, advanced findings in mechanics and material science, and relevant technological applications. Topics span from geometric modelling tools to applications of virtual/augmented reality, from interactive design to ergonomics, human factors research and reverse engineering. Further topics include integrated design and optimization methods, as well as experimental validation techniques for product, processes and systems development, such as additive manufacturing technologies. This book is based on the International Conference on Design Tools and Methods in Industrial Engineering, ADM 2019, held on September 9–10, 2019, in Modena, Italy, and organized by the Italian Association of Design Methods and Tools for Industrial Engineering, and the Department of Engineering “Enzo Ferrari” of the University of Modena and Reggio Emilia, Italy. It provides academics and professionals with a timely overview and extensive information on trends and technologies in industrial design and manufacturing.

This book presents a selection of papers on advanced technologies for 3D printing and additive manufacturing, and demonstrates how these technologies have changed the face of direct, digital technologies for the rapid production of models, prototypes and patterns. Because of their wide range of applications, 3D printing and additive manufacturing technologies have sparked a powerful new industrial revolution in the field of manufacturing. The evolution of 3D printing and additive manufacturing technologies has changed design, engineering and manufacturing processes across such diverse industries as consumer products, aerospace, medical devices and automotive engineering. This book will help designers, R&D personnel, and practicing engineers grasp the latest developments in the field of 3D Printing and Additive Manufacturing.

This textbook covers in detail digitally-driven methods for adding materials together to form parts. A conceptual overview of additive manufacturing is given, beginning with the fundamentals so that readers can get up to speed quickly. Well-established and emerging applications such as rapid prototyping, micro-scale manufacturing, medical applications, aerospace manufacturing, rapid tooling and direct digital manufacturing are also discussed. This book provides a comprehensive overview of additive manufacturing technologies as well as relevant supporting technologies such as software systems, vacuum casting, investment casting, plating, infiltration and other systems. Reflects recent developments and trends and adheres to the ASTM, SI and other standards; Includes chapters on topics that span the entire AM value chain, including process selection, software, post-processing, industrial drivers for AM, and more; Provides a broad range of technical questions to ensure comprehensive

understanding of the concepts covered.
Abstracts of XXXI International Scientific and Practical Conference
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