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Nota di contenuto	Advances in Engineering Materials, Product and Systems Design; Preface; Table of Contents; Chapter 1: Advances in Engineering Design; Biomimetic Design of Lightweight Vehicle Structures Based on Animal Bone Properties; Comparative Evaluation of Engineering Design Concepts Based on Non-Linear Substructuring Analysis; Design of Exotic Materials Machining System; Advances in Design and Materials for Indoor Sports Surfaces; Design Optimisation of Passenger Car Hood Panels for Improved Pedestrian Protection; Analysis of Deep Groove Ball Bearing Design for Assembly Explicit Parametric Method for Optimal Spur Gear Tooth Profile Definition Investigation of the Effect of Rolling Bearing Construction on Internal Load Distribution and the Number of Active Rolling Elements; HCR Gearing and Optimization of its Geometry; Chapter 2: Advances in Engineering Materials and Manufacturing; High-Value SLM Aerospace Components: From Design to Manufacture; Feasible Build Orientations for Self-Supporting Fused Deposition Manufacture: A Novel Approach to Space-Filling Tesselated Geometries Materials and Engineering Design for Human Performance and

Protection in Extreme Hot Conditions Investigation of Dental Biomaterials under Load Using a Digital Image Correlation System; Assessment of the Effect of Pitting Corrosion on Fatigue Crack Initiation in Hydro Turbine Shaft; Crossed Helical Gears with Wheels Manufactured from Sintered Steel with Pyrohydrolysis; Nanoscale Material Characterization under the Influence of Aggressive Agents by Magnetic Force Microscopy and Opto-Magnetic Spectroscopy Fullerene Based Nanomaterials for Biomedical Applications: Engineering, Functionalization and Characterization Nanophotonic Rigid Contact Lenses: Engineering and Characterization; Chapter 3: Engineering Applications; Finite Element Analysis of Vertically Loaded Cylindrical Ti Implants; Integration of the Technical Product Risk Assessment within the ISO 31000 Enterprise Risk Management Concept; Data Acquisition and Automatisation of a Conveyor Idler Test Stand; Experimental Investigation of Characteristics of Passive Safety Elements Reliability Distribution in Mechanical Systems for Given Reliability and Cost Reliability of Transportation Belt Rollers Used in Surface Coal Digging; Improvement of Auxiliary Mechanization Operations Management at an Open-Pit Coal Mine Based on a Process Approach with ICT Support; Keywords Index; Authors Index

Sommario/riassunto

This book presents some recent research efforts that provide new insights into particular advances in engineering materials, product and systems design. The featured research contributions stemming from an international virtual engineering forum aim to inform future research and development in relevant fields. This includes especially research focused on design, materials and manufacturing of engineering structures, components and systems for industrial applications, including aerospace, automotive, bioengineering and sports. Review from Book News Inc.: The 15 papers in this collection, submit
