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Nota di contenuto	Part I: Manufacturing Stream. The machining behaviour of 52100 bearing steel -- Optimization of machining parameters in drilling of AA 7075 alloys using TOPSIS and Taguchi Method -- Mechanical Characterization of a Peninsular Gneiss Rock Dust Flour Reinforced Aluminium Metal Matrix Composites -- Friction Stir Processing of Magnesium Metal Matrix Composites: A Review -- Modelling of Volumetric Shrinkage of Nylon parts fabricated by 3D printing process -- Finite Element Analysis and Experimental Investigation of Sandwich Composite Material Made By Stainless Steel with Nylon -- Comprehensive review on mechanical characters of plant particle reinforced poly lactic acid biocomposites -- Investigation on the Characteristics of the Hemp- Kevlar Based Hybrid Nanocomposite --

Experimental Research on the Hardness and Scratch Testing of Oil Hardening Non-Shrinkage Material with Titanium Nitride Coating by PVD Method -- Characterization of Process Parameters In Micro EDM on Stainless Steel -- Enhancing Impact Strength of Additively Manufactured Short Carbon Fiber Reinforced Nylon composite -- Hypersonic Impact, Flexural and Tensile Testing on the Natural Fibre with Influence of the Nanocompositie -- Design and fabrication of intra campus mobility electric two-wheeler -- Experimental Investigation and Effect of Machining Parameters on surface roughness of AISI 1050-steel using Parallel Turning -- Recent advancements in the fabrication of ceramic matrix composite: A critical review -- Effect of MIG Welding Process on Hardfacing of Inconel 718 over Stainless Steel 347 -- Effect of B4C on Mechanical Properties of AZ91C Metal Matrix Composite -- Mechanical, Microstructural Characterization and Tribological Response of al 5050/B4C/sic stir cast hybrid Metal matrix composite -- An evaluation of density and compression properties of AZ91D-SiC metal matrix compo-site produced through powder metallurgy -- Incorporating Six-Sigma in e-learning platform during COVID-19 Pandemic -- Improving the Efficiency of the Vehicle Service Sector using CPM and PERT -- Enhancing efficiency in Micro Circuit Manufacturing using six sigma -- Efforts to Improve the Brand Value of Beverage Industry using Six Sigma Methodology -- A Study on Six Sigma to Improve Service Quality and Customer Satisfaction in E-commerce Industry -- Optimization of Transportation Cost in a Supply Chain -- Design and Development of Electrical and Electronics of Massive 3D Printer -- Delta 3D printer - A review on electrical components -- Fabrication and Compressive Strength of Functionally Graded Dual Filler Polymer Composite Materials -- Analysis of MRR, TWR and Surface roughness in EDM using Artificial Neural Network technique -- Wear characteristics of hard coatings on austenitic stainless steels using detonation spray process -- Correlation between Microstructure and Hardness in 5356-Al Fabricated by Wire-Arc Additive Manufacturing Process -- Mechanical Performance Analysis of Ecofriendly Fiber Composites -- A Novel Design and Development of Low-Cost Electro-Chemical Machining Unit with Optimized Parameters -- Influence of Turning Parameters on the Surface Roughness and Cutting Force of the Aluminium Matrix Hybrid Composites -- Investigations on Modified Friction Welding Samples of SA-Grade Materials Used in Box-Type Heat Exchangers -- Sustainable turning of 6063 aluminum alloy in dry condition using grey relational analysis -- Introduction to Biomaterials: An Overview -- Part II: Automation Stream -- ANN and Fuzzy Logic Based Direct Instantaneous Torque Control for 8/6 Switched Reluctance Motor -- Design and Fabrication of Automatic Screw Gauge Calibrator and Component Tester using IoT -- Implementation of Autonomous Rover -- Towards Industry 4.0: Readiness, Technologies and Challenges -- Multiple regression analysis of performance indicators in the Tertiary food processing industry -- A Multipurpose Agribot -- AI based Automated Surface Inspection of Steel Sheets -- Design of Smart Glove for sign language interpretation using NLP and RNN -- A Smartphone-based Digital Image Colorimetry Model for Identifying Fuel Types in Downstream Petroleum Sector -- Real time detection of edge defects on a rolled steel sheet using transfer learning technique -- Semi – Automation in Chilli Pulverization -- 2.4GHz Microstrip MIMO Antenna Design -- Part III: Design Stream -- A conceptual study on Active Debris Removal Technologies -- Design and analysis of single screw extruder for Hybrid Manufacturing process -- Power transmission in electro dynamic suspension (EDS) type MAGLEVs through 2G High Temperature Superconducting Cable --

Analysis of energy loss through a Flow Divider Valve in different applications using various hydraulic drive systems -- Fabrication of Mechanical Circuit Breaker Device for Overhead Transmission Lines -- Simulation of Hybrid CVT motorcycle using MATLAB -- Design and fabrication of oil skimmer with metal scrap collector -- Fault bearing detection from vibrational signal data by using Machine learning algorithms -- Modelling and Simulation of Magneto Rheological Fluid in a Damper using COMSOL -- A Computational study on B-Splines based design parameterization strategy for compressor annulus for through flow analysis -- Magnetic Analysis of Magnetorheological Brake with Multiple Conductor Paths using COMSOL -- Need Based Design for Knee Braces for Sit-to-Stand and Stand-to-Sit Task- A Case Study -- Finite Element Analysis of Silicon Heat sink with CNT nanofluids for Microelectronics Applications -- SAR exposure assessment in Human head tissue model at GSM Frequency -- Bending and Contact Stress Analysis of Helical Gear: A Comparative Study -- Theoretical and Numerical Analysis of Bending Stress on Spur Gears -- Bandgap Calculation of Two-Dimensional Metamaterial Foundation -- Frequency Calculation of Shear Deformable Beams by Isogeometric approach -- Deflection Of Thin Plate Through Isogeometric Analysis -- Thermal Soaring and the Control Surface Aerodynamics of an Eagle -- Design and Development of Timed Programmable Pet Food Feeder -- Specific Energy Absorption and Bending Resistance of Hybrid Bumper Beam -- Modelling of fine korai fiber extraction machine to reduce user's fatigue -- EMI based Fatigue life assessment of friction stir welded AA5083-O and AA6063-T6 aluminium alloy -- Low-Cost Emergency Ventilator -- Comparison of fault detection data from defective ball bearings using Artificial Neural Networks -- Optimization of Processing Parameter for Optimal Performance of Dyneema HB- 50 Composite -- Design, Thermo-mechanical analysis and optimization of an IC Engine Piston With Aluminium and AlSi4032 -- Design of Spherical Hopping Terrain Surveillance Robot -- Design of special purpose hydraulic forging press for15000 tones capacity -- Ujjal Kalita and Krishnanand K Anandakrishnan -- Part IV: Experimental and Numerical Investigations on Thermo Electric Generator used in CI Engines -- Experimental study on Water quality enhancement: Micro Nano bubbles Technology -- A novel design of internal heat exchangers in metal hydride system for hydrogen storage -- Simulation Analysis of Wind Turbine Generator System -- Bio-Plastic Preparation Using Potato, Corn And Rice Based Starches -- Investigation on the Reduction of Oil Coking Issue in Turbo Charger for Compressed Natural Gas Engine -- Design and Fabrication of Fuel less Power Generation -- Cooling of Gearbox Oil Using Peltier Module -- Assessment of diverse characteristics of diesel engine fueled with various biofuels: A Review -- A mathematical steady-state energy balance model for studying the physiology of the human body -- Investigation on Hydrogen Production using Concentrated Solar Thermal (CST) Technology through Thermochemical Water Splitting and Solid Oxide Electrolysis (SOEC) -- A Study on Rayleigh Plateau Instability in Slender Jets of Nuclear Materials -- Numerical Investigation of a Channel during Loss of Coolant Accident -- Experimental Comparative Analysis of Heat Transfer Enhancement in Shell and Coiled Tube Heat Exchanger with Winged Insert and Annular Fin -- Modelling of Solar Thermal based Adsorption Cooling System for Residential Building -- A review on piezoelectric vibration energy harvesters -- Simulation Studies on Harmonic Analysis of Lighting Loads -- Effects of hot and cold EGR in CRDI diesel engine fuelled with B20 blend of rice bran oil biodiesel -- A comprehensive review on the numerical analysis of flow field

Characteristics over naca aerofoils in the presence of rain -- A Comprehensive Review on Space debris and its Mitigation Techniques -- Critical Review on Optimization of Star Propellant Grain Design -- Understanding of space time- 4th Dimension -- PMSG Based Wind Energy Conversion System with MPPT Controlled Boost Converter -- A Review of PV Power Utilizations in India and Impacts of Segregation and Safe Disposal of Toxic Components from Retired Solar Panels -- Four Port Converters with PV and Fuel Cell for Low-Voltage Bipolar DC Micro grid -- Evaluation of Combustion Characteristics of Fuel Derived from the Waste Lubricating Oil with N-Pentanol Additives in Diesel Engine.

Sommario/riassunto

This book comprises the proceedings of the 2nd International Conference on Future Technologies in Manufacturing, Automation, Design and Energy 2021. The contents of this book focus on recent technological advances in the field of manufacturing, automation, design and energy. Some of the topics covered include additive manufacturing, renewable energy resources, design automation, process automation and monitoring, etc. This book proves to be a valuable resource for those in academia and industry.