

Preface

This special edition presents the research results in diverse engineering areas such as mechanical engineering, mechatronics and construction.

Chapter 1: Research and Design in Mechanical Engineering focuses on the results of machines and equipment design and the analysis of the various operative characteristics.

Chapter 2: Mechatronics and Power Electronics highlights the synergy between various engineering systems and electronic controls, illustrating how this interdisciplinary field fosters smarter and more efficient technological and technical solutions. The multipurpose smart bridge health monitoring system, smart water quality monitoring system, charging system for electric vehicles and automatic transmitter coil positioning adjustment system for wireless charging are investigated here.

Chapter 3: Building Materials and Coastal Engineering analyses properties of green concrete and asphalt materials and the results of modelling sand wave evolution and migration on the coast of the North Sea.

Chapter 4: Structures and Infrastructure Engineering also focuses on construction issues and reflects research results in the field of infrastructure engineering. Design, construction, and maintenance of robust infrastructure are critical to ensuring the long-term sustainable development of modern societies.

We hope this special edition will inspire readers to research in these fields, fostering innovation, and practical application of engineering solutions.