Preface

The rapid advancement of science and technology continues to redefine the boundaries of innovation, sustainability, and interdisciplinary collaboration. This special edition presents research results and developments across three pivotal domains: optics and electronics materials, innovative engineering solutions in machinery design, and mechatronics with monitoring systems.

Chapter 1: Materials for Optics and Electronics Applications focused on the synthesis and performance evaluation of materials essential for next-generation optical devices and electronic systems.

Chapter 2: Engineering Innovations highlights transformative engineering approaches to address real-world problems through novel designs, process optimisations, and the integration of sustainable practices.

Chapter 3: Mechatronics and Monitoring Systems presents integrated technologies combining mechanical engineering, electronics, control theory, and computing. With the rise of intelligent systems, this chapter explores applications in automation, smart manufacturing, real-time monitoring, and robotics — some key drivers in modern industry.

This edition is intended for researchers, engineers, practitioners, and students who are engaged in cutting-edge research or seeking to understand current trends and innovations in the mentioned dynamic fields.