



2ND INTERNATIONAL WORKSHOP

ADDITIVE MANUFACTURING
AND SUSTAINABILITY

BOOK OF ABSTRACTS

IWAM 24



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WELCOME

We are pleased to present the International Workshop on Additive Manufacturing and Sustainability Book of Abstracts. This compilation brings together researchers, professors, and innovators from around the world who are advancing additive manufacturing (AM) and sustainable practices.

As the global community prioritizes environmental responsibility, additive manufacturing has emerged as a transformative technology capable of revolutionizing industries while reducing ecological footprints. This workshop unites advanced research, innovative applications, and progressive strategies to examine how additive manufacturing can enhance sustainability.

Within these pages, you will find a diverse array of abstracts showcasing ground-breaking work in areas such as:

- Sustainable materials and processes in AM,
- Energy efficiency and waste reduction,
- Circular economy and lifecycle analysis,

Each contribution reflects a commitment to addressing the challenges and opportunities at the intersection of technology and sustainability. We hope this collection not only informs but also inspires collaboration and innovation among participants.

We are profoundly grateful to the authors, reviewers, and organizers whose unwavering commitment has enabled the publication of this book. A special thank you to our sponsors and partners for their unwavering support in bringing this workshop to life.

We appreciate your participation in this wonderful adventure. Let's work together to advance sustainability and innovation!

Warm regards,

The IWAM 2024 Organizing Committee,

João Rocha

João E. Ribeiro

Jorge Santos

Rui Lima

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A Review of Best Methods for 3D Scanning and Modeling of Terrain and Buildings Using Drones and Photogrammetry

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Recent advancements in drone technology and photogrammetry have revolutionized the field of 3D terrain and building modelling. Drones equipped with photogrammetric software provide efficient, accurate, and cost-effective solutions for capturing high-resolution 3D models of both natural and urban environments. This literature review consolidates research on best practices for terrain and building scanning using drones and photogrammetry, focusing on methodologies, integration of technologies, challenges, and future directions. Additionally, the review explores applications in urban planning, environmental monitoring, disaster management, and heritage preservation.

Keywords: Drone Technology; Photogrammetry; 3D Modelling; Urban Planning.