Foreword

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Biographical notes: Rui Alexandre Castanho holds an International PhD on Sustainable Planning in Borderlands. Currently, he is the Vice-Dean for Sustainable Development at the WSB University, Poland, and a Visitor Professor at the University of Johannesburg, South Africa. He is a European Climate Pact Ambassador. Besides, he completed a post-doc researcher on the GREAT Project, University of Azores, Ponta Delgada, Portugal. Furthermore, he collaborates with the ECIDES Research Group – University International of La Rioja (UNIR), Spain; the Vice-Coordinator of VALORIZA – Research Center for the Enhancement of Endogenous Resources, Polytechnic Institute of Portalegre (IPP), Portugal; CITUR – Madeira, Portugal (Researcher); and AQUAGEO Research Group – University of Campinas (UNICAMP), Brazil. Moreover, he has graduated in Green Spaces Engineering and Agricultural Engineering and holds a Master's in Planning, Audit, and Control in Urban Green Spaces. Also, he was awarded the Doctor Honoris Causa title in Lima-Peru by (UPCI).

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In continuing to explore how digital transformation re-designs the future of sustainable development, Volume 2 of this special issue goes deeper into the biases, challenges, and emerging opportunities posed by digital technologies. As outlined in Part 1, integrating artificial intelligence, big data, cloud computing, the internet of things (IoT), and blockchain is transforming industries, organisations, and societies. These technologies have the potential to significantly drive sustainable development goals by enhancing operational efficiencies, reducing resource waste, and fostering innovative, inclusive practices.

Nevertheless, as these advancements evolve, biases deeply embedded within data sets, system architectures, and socioeconomic environments continue influencing outcomes. In fact, the constant risk is that without intentional mitigation, digital transformation may inadvertently enlarge existing inequalities, reinforcing divides across communities and demographic groups. This bias-driven dynamic requires rigorous scrutiny and responsive, ethical governance to ensure that digital solutions contribute meaningfully to sustainability goals rather than amplifying disparities.

Volume 2 extends the dialogue established in Part 1 by examining new and evolving aspects of digital transformation, focusing on how emerging digital ecosystems can support and challenge sustainable practices. Contextually, such challenges underscore the need for cohesive, forward-looking policy frameworks that can adapt to rapidly advancing technological landscapes, bridging governance gaps and promoting responsible innovation.

In particular, IoT innovations for resource management, blockchain for supply chain transparency, and AI for economic inclusivity represent promising avenues for fostering a sustainable digital future.

The articles in this second volume bring diverse perspectives, each contributing to a nuanced understanding of how digital transformation can support sustainable development. Collectively, they call for an inclusive digital evolution that seeks to bridge divides and ensure that technological advancements are equitable and accessible. Therefore, by engaging in this ongoing dialogue, we aim to inspire researchers, practitioners, and policymakers to work toward innovative, sustainable digital solutions that balance growth with ecological integrity and social responsibility.