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Integrating Digitization and Plastic Credits

Dual Levers for Advancing the Circular Economy

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Introduction

- The need for innovative solutions for the circular economy
- Plastic credits as an environmental and economic instrument
- Digitalization as a catalyst: transparency and traceability
- Case study: C-Plastic in Lusophone contexts

Objective of the Study

- To analyze the relationship between digital transformation and plastic credits
- To understand their impact on circular and inclusive models
- To explore economic, social, and environmental opportunities

Methodology

- Qualitative approach: document analysis and case study
- Secondary sources: reports, scientific literature, and market studies
- Comparison between digital certification business models

Digitalization and Sustainability

- Technologies such as blockchain, AI, IoT, and Big Data
- Digital transformation as the foundation of circular models
- Challenges: regulation, cybersecurity, and inclusion

Plastic Credits

- Environmental compensation mechanism based on recycling
- Inspired by carbon credits
- Challenges: lack of regulation and risk of greenwashing

Applied Technologies

- Blockchain: traceability and transparency
- IoT: real-time monitoring
- AI: optimization of sorting processes and waste reduction

Case Study: C-Plastic

- Portuguese startup: plastic credit certification
- Operations in PALOP countries with local NGOs
- Blockchain-based platform and digital marketplace

Benefits and Challenges

- Benefits: social, environmental, and economic impact
- Challenges: inclusion of informal recyclers and credibility
- Need for international standards and financing

Growth Opportunities

- Green entrepreneurship driven by digitalization
- Emerging waste certification market
- Alignment with public policies and ESG frameworks

Conclusion

- Digitalization and plastic credits as dual levers
- Require clear regulation and global commitment
- Transformative potential for inclusive sustainability

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