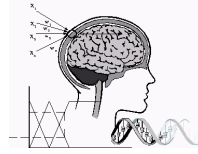




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Circular Economy and Sustainability: Digital Technologies and Business Model Innovation

Name, Title and Affiliation of Chair:**Chair: Dr Miying Yang**

Lecturer, Engineering Management

College of Engineering, Mathematics and Physical Sciences, University of Exeter, UK

Co-chair: Prof. Steve Evans

Director, Centre for Industrial Sustainability

Institute for Manufacturing, University of Cambridge, UK

Details of Session (including aim and scope):

Most of the current production and consumption systems are linear, adopting a “take, make and dispose” model and thereby contributing to the depletion of natural resources. To achieve sustainable growth, firms need to shift from linear to circular economy (CE) models. It requires firms to develop new technologies and business models to improve sustainability performance through activities of reduce, reuse, remanufacturing and recycling. It also requires the collaboration among the stakeholders across the whole supply chains.

In the current Industry 4.0 era, many firms have been exploring the adoption of the emerging digital technologies, e.g., Internet of Things (IoT), big data analytics, artificial intelligence (AI), 3D printing, robotics, virtual reality and cloud computing. These digital technologies are widely regarded as having significant potential to improve productivity, but with less recognition in improving the sustainability performance of manufacturing and supply chains. Recent research and practice show that firms often fail in adopting these technologies towards sustainability goals. It also requires the design of new business models (e.g., product-service systems), as well as the reconfiguration of digital supply chains and business ecosystems to facilitate this transition. Despite the growing interests, the current academic understanding of this topic and the applications in companies are still limited.

This Invited Session aims to attract contributions from academics and industrial practitioners on digital technologies and business model innovation for sustainability and circular economy.

Relevant topics include, but are not limited to:

- The adoption of digital technologies for sustainability/CE
- Digitalisation and sustainability/CE
- Digital product-service system for sustainability/CE
- The adoption of digital technologies for sustainability/CE
- New business models for Industry 4.0 technologies
- The impact of digitalisation on supply chain sustainability/circularity
- The design, modelling and simulation of business ecosystem towards sustainability/CE
- Enablers and barriers for the adoption of digital technologies towards sustainability
- Methods and tools for intelligent sustainable design and manufacturing
- Supply chain implications of different sustainable/circular business models

Contributions of any types are welcome including literature reviews, conceptual studies, empirical studies, case studies, modelling and simulation.

Authors' guidelines and deadline for submissions can be found in the conference website: <http://sdm-21.kesinternational.org/>

Main Contributing Researchers / Research Centres (tentative, if known at this stage): NA

Website URL of Call for Papers (if any): NA

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