



INTERNATIONAL

INVITED SESSION SUMMARY

Title of Session: Digitisation and the Circular Economy
Name, Title and Affiliation of Chair: Dr Fiona Charnley – Cranfield University (Chair) Dr Mariale Moreno – Cranfield University (Co-chair)
Details of Session (including aim and scope): Data driven intelligence is rapidly becoming a pervasive feature of our economy, where data generated through social, mobile, machine and product networks are being leveraged through data analytics to create new forms of value. In manufacturing industries, through emerging concepts such as I4.0 and IoT, data driven intelligence is transforming how products are manufactured, sold and used across the value chain. Despite a wealth of research into technological advances in manufacturing, much of it has focused on productivity, flexibility and responsiveness. Pairing the digital revolution with the principles of a Circular Economy model has the potential to radically transform the industrial landscape and its relationship to materials and finite resources, thus unlocking additional value for the manufacturing sector. This special session aims to explore different applications of digital intelligence applications to minimise resource use in manufacturing processes, to promote circular economy strategies amongst manufacturers and their value chain, to enable alternative business models, to implement decision-making strategies through data analytics that can help to assess integrity and status of a product to enable manufactures to capture significant value that could be lost. This special session invites contributions on the following topics, but are not limited, to the following: <ul style="list-style-type: none">• Digital technologies, reuse/remanufacture and the Circular Economy• Data analytics and the Circular Economy• Big Data for regenerative manufacturing systems• Circular business models and big data• Transformation of current manufacturing systems towards a Circular Economy• Application of state of emerging technologies (e.g. 3D printing, sensors, towards a Circular Economy)
Main Contributing Researchers / Research Centres (tentative, if known at this stage): Possible contributions: Dr Fiona Charnley – Centre for Competitive Creative Design (C4D), Cranfield University Dr Mariale Moreno – Centre for Competitive Creative Design (C4D), Cranfield University Professor Ashutosh Tiwari - Digitisation for Manufacturing at the University of Sheffield Professor Mohamed Naim – Cardiff Business School, Cardiff University Professor Duc Pham – Department of Mechanical Engineering, University of Birmingham
Website URL of Call for Papers (if any): NA
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