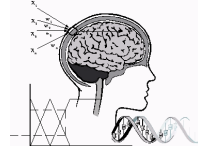




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Sustainability of Additive Manufacturing

Name, Title and Affiliation of Chair:

Dr Martin Baumers, Research Fellow, University of Nottingham

Details of Session (including aim and scope):

A relatively recent approach to the manufacture of end-use products, Additive Manufacturing (also known as 3D Printing) is based on creating parts and products directly from raw material in powder, liquid, sheet or filament form and digital 3D design data. The underlying processes operate by depositing material, usually layer-by-layer, without the need for moulds, tools or dies. One of the promises of Additive Manufacturing is that it allows the efficient manufacture of geometrically and functionally complex products within a single process step. This may provide an opportunity for more sustainable supply chains and also for the realisation of highly efficient product designs.

The aim of this special session is to provide a forum for researchers and practitioners working on various aspects of Additive Manufacturing processes, materials, and design systems to share and discuss the challenges, current research trends and novel theory and practice originating from the fields of engineering, materials science, design and management.

The scope of the sustainability of additive processes covers the entire Additive Manufacturing product lifecycle, ranging from raw material generation to design considerations through to end-of-life logistics and recycling. The invited session will include (but is not limited to) the following topics:

- Innovative supply chains
- Supply chain dematerialisation and software mediation
- Life cycle analysis
- Design for Additive Manufacturing
- Environmental performance indicators
- Optimisation-based design
- Sustainability of raw materials
- Process energy consumption
- Emissions measurement and carbon accounting
- Incorporation of use-phase data
- Recycling and end-of-life aspects
- Sustainability of multi-material Additive Manufacturing
- Future uses

Main Contributing Researchers / Research Centres (tentative, if known at this stage):**Website URL of Call for Papers (if any):****Email & Contact Details:**

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