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Call for Papers Special Issue
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**Built Environment
Project and Asset
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Construction 4.0 and Circular Economy

We are pleased to notify our call for papers for the Built Environment Project and Asset Management special issue on "Construction 4.0 and Circular Economy".

The adoption of 4th Industrial Revolution (4IR) technologies in economic sectors such as apparel and footwear, retail and resale, transportation and finance etc. have contributed to successful Circular Economy (CE) performance. This is particularly the case for example, with the operationalization of the 4R and 9R frameworks (Kirchherr, Reike, & Hekkert 2017; Potting, Hekkert, Worrell, & Hanemaaijer 2017). The efficiency of 4IR technologies in driving this transition has been acknowledged in relevant literature especially as it pertains to the operationalisation of the 4R and 9R frameworks.

Although the construction industry is seeing the gradual adoption of these technologies under the auspices of Construction 4.0, not a lot of attention has hitherto been paid to proactively applying these technologies to boost the CE performance of industry

processes and its products i.e. built assets including buildings and highways, hence ultimately the collective built environment. This is the gap which this Special Issue (SI) seeks to bridge.

This SI focuses on the operationalization of the CE concept in the construction industry and the role of 4IR technologies in facilitating this endeavour. Whereas the utility of 4IR technologies in promoting product and process circularity in sectors such as telecommunication, transportation and logistics etc has been explored, their deployment towards enabling circularity of product and process in the construction industry remains under-reported. As such, this SI solicits high-level contributions from academics and practitioners which provide answers to the question: how can 4IR technologies boost improved circular economy performance in the construction industry and of its products i.e. built assets in our built environment.



Specific objectives include

1. To unearth, consolidate and disseminate knowledge on the Circular Economy (CE) concept as well as the nexus between the concept and sustainability/sustainable development as it applies to the AEC + BE sector.
2. To explore the utility of 4IR technologies in engendering the transition from linear to CE business models in the AEC+ BE sector.
3. To draw together, analyse and leading-edge examples of best practice, as well as identify critical success factors (CSFs) and failure factors affecting the adoption and implementation of 4IR technologies in boosting CE performance of products and processes in the AEC + BE sector.

It is expected that the accepted SI papers will unearth, consolidate and disseminate knowledge on the Circular Economy (CE), sustainability and sustainable development. Furthermore, these papers will explicate the utility of 4th Industrial Revolution technologies (Construction 4.0) in engendering the attainment of process and product circularity in the construction industry and Built Environment (BE). Also, this SI will be expected to provide new directions for CE and 4IR technologies within the realm of construction and BE.

Anticipated Themes

Topics/themes, among others, will include the following (in the context of their applications to the Construction Industry and its products i.e. the Built Environment/ constructed built assets):

- 4th Industrial Revolution and 4th Industrial Revolution Technologies;
- Circular Economy Business Models;
- Product-Service Systems/Servitization Business Models;
- Automation and Robotics;
- Blockchain;
- Building Information Modelling/Digitization;
- Artificial Intelligence;
- Alternative Construction Materials;
- Building & construction materials substitution with sustainable materials
- Upcycling of building and construction waste materials
- Future Skills/Technological Unemployment and Human Disenhancement/Upskilling,
- 4IR Technologies, Innovation and Entrepreneurship in Construction, and;

Submission Guidelines

Submissions to Built Environment Project and Asset Management should be through ScholarOne Manuscripts. Registration and access are available [here](#).

Author guidelines must be strictly followed. Please see [here](#).

Key Dates

Papers for this special issue should be submitted through the above portal before **15th April 2019**.

Expected Publication

About March/April 2020 for 'early- cite' of accepted papers.

In the meantime, please get in touch with the guest editors to discuss your submission. Informal queries or formal submission of abstracts are encouraged.

The guest editors will conduct an initial screening of submitted papers. Those judged suitable for the special issue will be sent to at least two independent referees for double blind peer review, after which submissions may be recommended for revisions and further review, acceptance or rejection.

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Journal

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