

Invited session: “Digital twins for infrastructure and construction”
4th IFAC Workshop on Advanced Maintenance Engineering, Services and Technologies, 10-11 September 2020, Cambridge, UK

Session proposers:

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Description and topics:

The Architecture, Engineering, Construction and Operation (AECO) sector is increasingly embracing the digital age. Building Information Modelling (BIM) and Management are spreading fast across the building and infrastructure companies, thus enabling a better control of cost and activities throughout their lifecycle. Companies are now realising the potential of digitisation to deliver value not only in the design and engineering phase but also in the other phases of the asset lifecycle (construction, usage, renovation and decommissioning).

Concepts such as Internet of Things, Industry 4.0 and Digital Twins are now seen as major opportunities for actors in the building and infrastructure sectors to improve their products, processes and services. The linkage between the real world and the virtual world enabled by these emerging technologies - supported by new data models and innovative data management strategies - allow to set up Dynamic Digital representations of the real World, called Digital Twins. This invited session will focus on Digital Twins applied to the construction and infrastructure section.

To discuss these aspects, this invited session calls for high-quality contributions that investigate main research challenges, technology developments and advancements, case studies, demonstrations and applications related to the following topics (but not limited to):

- Building Information Modelling and Building/Infrastructure Data Management
- Digital Twins of buildings and infrastructure;
- Intelligent and Predictive infrastructure asset management;
- Augmented/Virtual/Mixed Reality for building and infrastructure management;
- Blockchains/Distributed Ledger Technologies for infrastructure;
- Strategies for managing whole-life asset data;

Contributions consisting either of empirical studies, collaborative projects and action researches in an industrial context are particularly welcome.

INVITED SESSION CODE: 8pq36

Please submit your paper as an “invited paper” to the papercept system, and provide this code in order to associate your paper to the invited session:
<https://ifac.papercept.net/conferences/scripts/start.pl>

IMPORTANT DATES:

31st Jan 2020: Paper submission
15th Mar 2020: Author notification
10th May 2020: Final paper submission
09th Jun 2020: Early bird registration
10th-11th Sept 2020: Workshop