



**PRO-VE'19–20<sup>th</sup>** IFIP/ SOCOLNET Working Conference on Virtual Enterprises  
Turin, Italy – 23-25 Sep 2019

**Special Session on  
Towards Built-Environment 4.0:**

**Smart Management of Built Environment Assets through Collaborative Networks**

**Scope.** The Built Environment is an incredibly complex system-of-systems. Furthermore, the built environment is one of the primary consumers of natural resources (energy, water etc..) and thus its efficient management and resilience to change is critical.

Assets within the built environment often exhibit complex nonlinear relationships and interdependencies. The built environment's complexity is caused by the fact that it is actually made up of multiple individual systems (i.e. buildings, utility systems, transport systems and communication systems) with growing levels of autonomy. These systems all possess their own characteristics, including their own software networks, communications, management systems and processes.

The use of smart technologies (i.e. artificial intelligence, collaborative systems, optimisation, and IoT/CPS) is seen as a key enabler for increasing the efficiency and resilience of the built environment, however, the built environment's complex structure is a key obstacle to the deployment of such technologies. This is because, in many cases, in order to achieve any benefits any solution must bridge the multiple complex systems in use in the built environment, for which collaborative networks can offer promising approaches.

Topics of interest include but are not limited to:

- Interconnected services for the management of built environment assets
- Collaborative aspects in Smart Cities
- Collaborative optimisation of built environment resource usage (i.e. energy/water)
- Management of data across built environment assets
- Digitisation of built environment management processes
- Data analytics (related to built environment data)
- How occupants/residents interact with built environment management/optimisation systems

**Session Organizers:**

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- Thomas Beach – Cardiff University, [beachth@cardiff.ac.uk](mailto:beachth@cardiff.ac.uk)

**Submission procedure:** Papers accepted for this session are included in the PRO-VE 2019 conference proceedings and follow the same reviewing process.

**Important dates:**

- Abstracts: 17 Mar 2019
- Full paper: 07 Apr 2019
- Acceptance notification: 18 May 2019
- Camera ready: 28 May 2019

Acceptance of papers is based on the full paper (up to 8 pages). Each paper will be evaluated by three members of the International Program Committee. However, prospective authors should submit a short abstract in advance, in order to check if the proposed topic fits within the conference scope.

When submitting on the web site, you have to indicate the name of the special session. Submission on: [www.pro-ve.org](http://www.pro-ve.org), with copy by email to the chairs of the special session.