

Fully-funded 4-year PhD Project at Loughborough University – Digital Twins for Building Energy Performance

Project Title	Digital Twins for Building Energy Performance
Supervisor(s)	Dr Vanda Dimitriou
Project Description	<p>The digital transformation of the construction sector is underway, with digital twins at the forefront of this movement. Digital twins offer a realistic, up-to-date representation of the built environment, enabling ongoing monitoring and prediction of its performance. A digital twin of the existing housing stock in the UK would help in identifying interventions needed to achieve Net Zero carbon targets, alleviate fuel poverty and provide proof that these goals have been achieved.</p> <p>This PhD will develop a digital twin for housing, through identifying data requirements for building representation and interoperability limitations with building energy modelling tools. Existing open-source datasets that include descriptive information regarding the condition of housing, such as the English Housing Survey and data sourced from the Energy Performance Certificates could be used to inform the development of the digital twin. A multi-scalar approach to this research project will explore the development of the digital twin at building and community levels.</p>