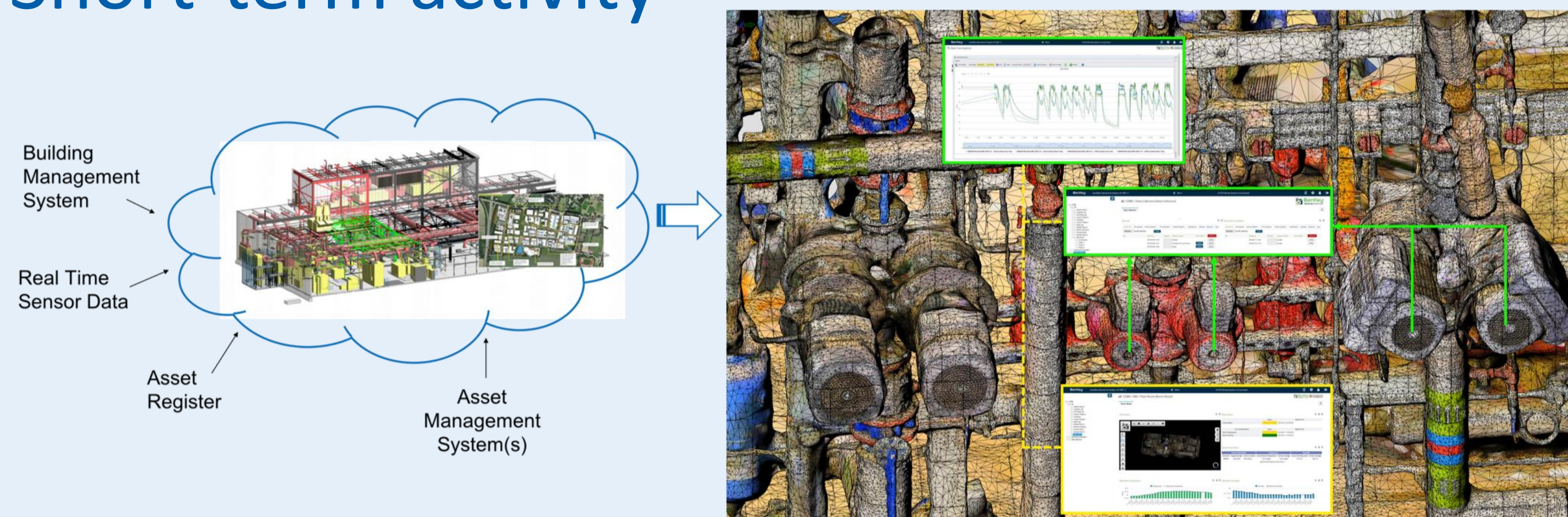


CDBB Digital Twin

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The **Centre for Digital Built Britain (CDBB)** at the University of Cambridge focuses on the ongoing transformation of the built environment through the digital tools, standards and processes that are collectively known as Building Information Modelling (BIM). One of the key activities at CDBB is the development of a **dynamic digital twin** of the West Cambridge Site. The aim is to demonstrate the impact of such a digital twin on facilities management, wider productivity and well-being. A digital twin refers to a digital replica of physical assets, processes and systems. Digital twins integrate artificial intelligence, machine learning and data analytics to create living digital simulation models that update and change as their physical counterparts change. A digital twin continuously learns and updates itself from multiple sources to represent its near real-time status, working condition or position.

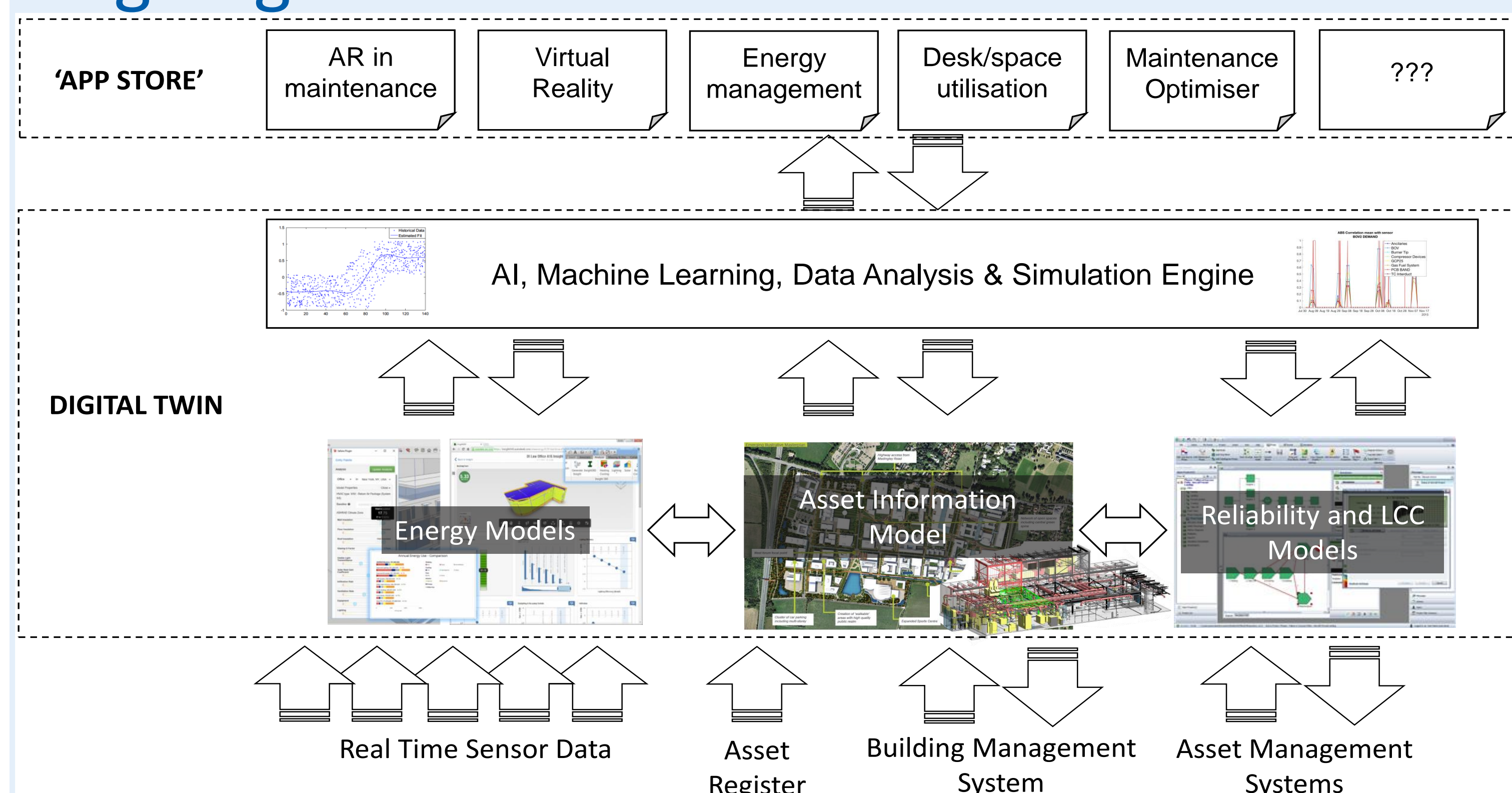
Short-term activity



What is a 'digital twin'?

- A digital twin is a computer model which mirrors and simulates an asset or a system of assets and their surrounding environment;
- Digital twin models can help organise data and pull it into interoperable formats so it can be used to optimise infrastructure use;
- Digital twins can also share this data, with defined levels of access, to inform better decisions about which future infrastructure to build and how to manage current and future infrastructure.

Ongoing work



The long-term goals:

- Demonstrate the impact of digital modelling and analysis of infrastructure performance and use on organisational productivity;
- Provide the foundation for integrating city-scale data to optimise city services such as power, waste, transport and understand the impact on wider social and economic outcomes;
- Establish a 'research capability platform' for researchers to understand and address the major challenges in implementing digital technologies at scale;
- Foster a research community interested in developing novel applications to improve the management and use of infrastructure systems.



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