What are the legal implications of Digital Twins?
An Osborne Clarke and UK PropTech Association webinar

In our recent webinar co-hosted with UKPA, we were joined by Alex Tosetti, Chief Commercial Officer at VU.CITY and Stewart Bailey, Managing Director of the proptech agency Virtual Viewing, to discuss the legal implications of digital twins and the uses and benefits of using them in the built environment.

Jonathan Mills of Osborne Clarke began by explaining how digital twins work as a virtual model of something physical, with data being layered in to cover how it moves, the processes it undertakes, and how it performs. Digital twins are not real-estate-centric but are becoming more prevalent in the real estate sector as they provide real time data about an asset which can be used to monitor, control and manage the asset and assess the impact of changes before they occur. This is invaluable in the design and planning stage as it takes the guesswork out of real estate projects. Twins in the built environment can speed up decision-making, improve the design process, ensure more effective and efficient processes, and optimise physical use.

> "*Twins are essentially a data-rich, advanced application of IoT technology. A sophisticated twin of a building will provide operators with intuitively understandable, instantly available information about its operation and granular operational events such as ventilation efficiency, status of fire alarm systems, defects in the supporting framework, any compromised security systems, etc.*"
> **Jonathan Mills**

The National Digital Twin programme, a partnership between the University of Cambridge and the government Department for Business Energy and Industrial Strategy, is a project aiming to facilitate the bringing together of independent digital twins to create a network of connected twins which will foster better outcomes for the built environment.

It is important to think about the legal issues involved early on in the process and Osborne Clarke's Tamara Quinn has been involved as part of an expert panel to consider some of the key legal aspects.

These include legal and regulatory issues around construction, financial regulation, energy, planning, insurance, IT law, funding and finance, intellectual property and data privacy. Intellectual property in particular has many aspects which need to be considered, such as copyright in software and plans, database rights, and confidential information. There is also the question of who owns the IPR and who controls it, who has the rights to use and license it – these issues need to be specified in the contract, as well as restrictions around usage.

> "*Contractual frameworks and collaboration agreements are absolutely at the heart of this. The risks, liabilities and responsibilities have to be clearly mapped out – to balance future-proofing your contracts versus getting them signed in time*"
> **Tamara Quinn**

VU.CITY is an example of digital twins and particularly 3D visualisation being used in the built environment. The VU.CITY platform is a digital twin of our cities starting at a macro scale with models of cities as a whole to help policy makers. Users can drill down into the detail at a micro level to assist master planners and developers designing individual buildings. The platform has currently mapped out 20 UK cities and 5 world cities, with London being the biggest digital twin with 3.3 million buildings mapped. The models include a multitude of data layers which include Land Registry information, viewing corridors, flood risk, air pollution, emission zones etc. and bring together 3D modelling and visualisation with digital twin data to enable better and quicker design and planning decisions.

"*The use of 3D data in a 3D model is helping form the environmental, economic, physical and social story to inform you at an early stage in your project brief of the baseline conditions*"
Alex Tosetti

Stewart Bailey of Virtual Viewing gave insight into the benefits of centralising a digital twin and involving various stakeholders, from construction of a building through to the handover stage. Stakeholders contribute to the centralised digital twin, and share the cost and relevant data benefits. He gave examples of digital twins in use: at a micro scale, the twin can show energy consumption, available car parking, and desk utilisation of an office building.

"*Digital twins have real benefit – they don't need to be expensive and they can bring massive benefits to the users across all aspects of a project.*"
Stewart Bailey

Are the legal issues going to make things insurmountable for digital twins moving forward?

There are many legal issues around digital twins that are undeniably complex, but they can be dealt with. It's important to involve the lawyers early on in the project, even just for an initial view to identify key areas where there are legal risks, and to create a roadmap for what needs to be done to steer around any significant legal pitfalls in advance.

What is the biggest hurdle to the wider adoption of digital twins in the market?

One of the main issues to address to encourage wider adoption of digital twins is showing user cases of when digital twins have been effective, and highlighting case studies of big wins resulting from digital twin technology. Another hurdle to wider adoption is people not realising what is available in the market place. There also remains some reluctance to leave behind the traditional approach to work and consultancy – people can be fearful of challenging the established way of doing things.

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