

Product definitions. Digital Twins

Digital Urban builds client owned digital twins of places to establish a well-informed, transparent and evidenced based decision-making process.

We are an award-winning tech for good business, established in 2017 by Simon Mabey working with a number of local government clients across the UK developing efficient interoperable [digital twins](#). Our clients leverage DU expertise in Urban modelling, virtual/augmented reality (VR/AR), and gaming technologies.

Our digital twin 3D solutions offer powerful tools for urban planning, community engagement, and infrastructure management, with the flexibility to support a range of other sectors such as economic development, tourism, and training.

Digital Urban's unique value propositions include.

- client ownership of the digital data,
- robust community engagement tools,
- fully customised, cutting-edge VR and XR solutions.

These advantages are designed to enhance the ability to make informed decisions, improve stakeholder involvement, and support long-term sustainable development goals.

Our **Model viewer software**¹ (MVS) can be accessed remotely and provides easy to use navigation for the Digital Twin 3D model, including at street level or in the air. With the ability to switch proposal on/off, change the time of day, date and weather. The software was designed and developed in collaboration with our clients. The software is used to showcase proposals to a wide range of stakeholders.



Remotely accessed MVS with Plymouth City model (LOD3) showing connectivity data

¹ [Model Viewer Software](#)



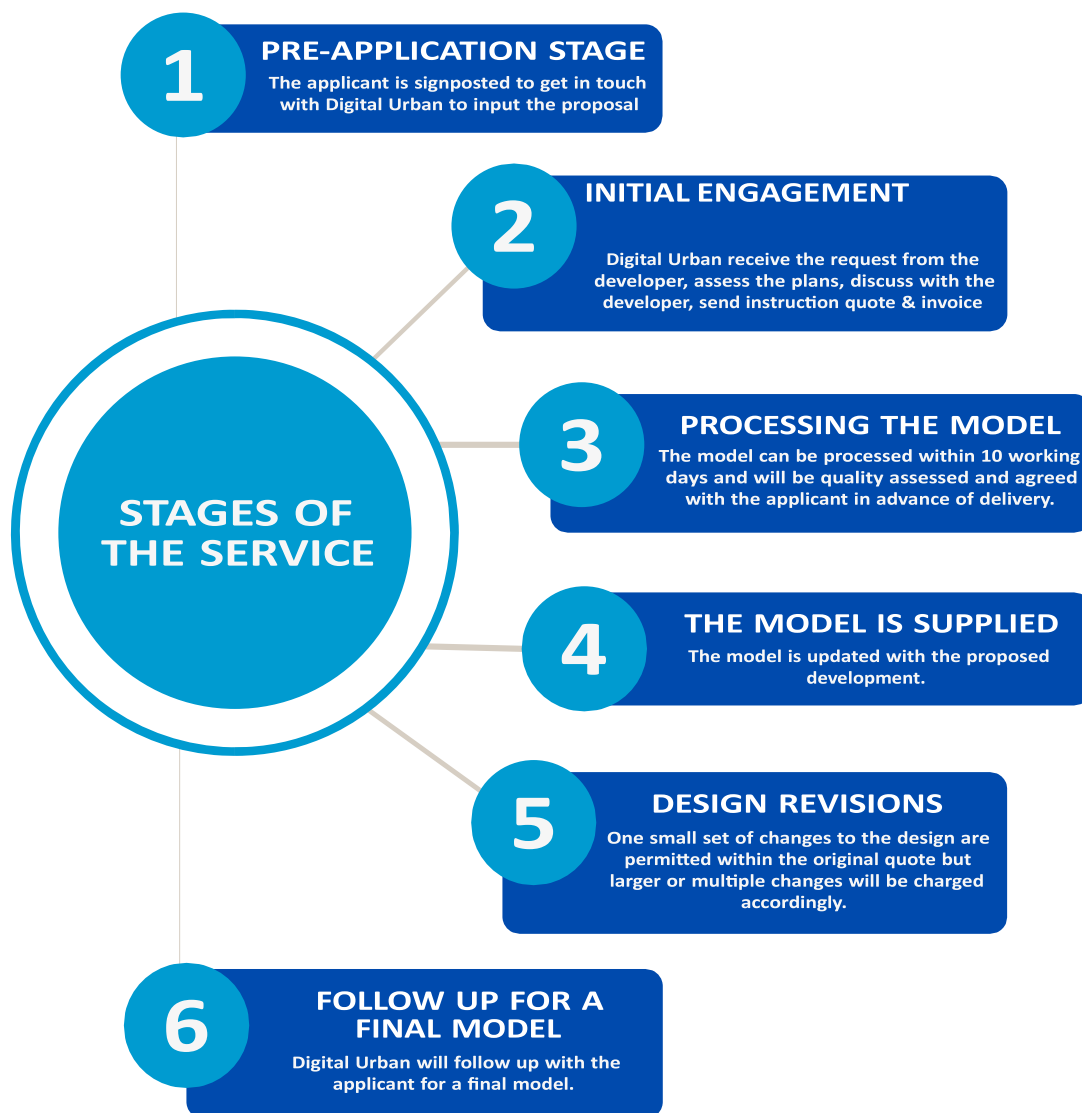
MVS - Watford Digital model showing proposed building on/off toggle in menu the user interface designed to avoid the need for any training and uses familiar navigation tools.

Digital Twin with Managed service contract

We provide a managed service contract for local planning and development management teams.

The Managed Service supports the Local Authority through all stages of a planning application. Its intent is a cost-effective service that allows the Digital twin to be current and not get out of date. To do that, the managed service works closely and alongside the Local Authority planning process, supporting it and bringing benefits. This requires the Local Authority to encourage applicants to adopt 3D models from preapplication through to post planning stages.

The Stages of the Planning Service



Stage 1 - Pre-planning Application or Application Stage

When a new preapplication is submitted to the Local Authority, the applicant will be signposted to contact Digital Urban to create an accurate 3D model that can be uploaded to the Digital Twin.

Every Local Authority has their own way of sharing their planning process to interested parties. Prior to going live with the managed service, Digital Urban will advise the changes to documents and web pages that need to be made by the Local Authority to enable this managed service and to maximise the benefits from the Digital Twin. This is generally lightweight documentation change such as edits to the Local Authority planning web pages signposting where the applicant needs to engage with Digital Urban to create a 3D model that can be imported to the Digital Twin for the planners to assess.

Further information such as the cost and SLA will be supplied to the applicant by Digital Urban. The modelling service is managed by Digital Urban; however costs and SLA are transparent to the Local Authority and outlined in Appendix C.

Stage 2 - Initial Applicant Engagement & SLA

The applicant will need to provide an exported .fbx file of their proposal. Digital Urban will access the files and perform the following checks:

- Ensure that the files are in the correct format and are complete
- Review scale, size and complexity of model
- Securely store & version the files

Digital Urban will then provide a quote and request confirmation that the applicant wishes to proceed.

Modelling will commence on receipt of a purchase order. This should be within 2 weeks of receipt of the files.

Stage 3: Processing the Model

Digital Urban will process the model within 10 working days after receipt of the purchase order, and we will contact the applicant regarding any issues or queries.

Digital Urban will perform a quality assessment of each model before it is released for review and final assessment by the applicant. After internal checks, we will notify the

applicant to assess the model and issue an invoice, which should be paid in full within 30 days.

Digital Urban will not release the model to the Local Authority until the applicant has reviewed the model and approved it to be shared with the Planning Team. At this point payment in full is also expected.

Stage 4: The Model is Supplied to the Planning Team

The model of the proposal can now be uploaded onto the Digital Twin and the Local Authority is able to view it for assessment. The proposal can now be used for internal preapplications meetings, design review panels and planning committees, speeding up the process.

Images from the model may be extracted for reports to the applicant.

Applications at preapplication stage will remain confidential according to Local Authority Data policy.

Stage 5 - Design Revisions

During the preapplication and planning permission process, one round of small changes is included in the initial cost.

If more substantive changes are required, then this may incur additional cost for example costing up to 50% of the original agreed fee.

Stage 6 - Follow Up with Applicant for Final Model

Digital Urban will follow up with the applicant within one year of planning permission being granted. The applicant will have the option of having the fully built out representation of the development included in the model and would be permitted to use images from this for promotional purposes. Depending on size of changes required this will be costed accordingly.

Gamification and XR / VR immersive installations for public engagement

Digital Urban uses gaming technology to provide robust efficient workflows that enable the Digital Twin to be humanised creating playful interactive content to support consultation with stakeholder and the community. We have developed a wide range of software tools which enable us to efficiently publish the Digital Twins into engaging interactive experiences. For use in engagement events, using gamification (i.e. informative interactive content) and immersive group experiences running alongside interactive media tables where viewers can look from above or drop down to street level to see before and after.

Digital Urban models are efficient interoperable assets that continue to be used by all our clients, demonstrating their long-term value.

Each digital twin 3D model can also be packaged into our **Urban Explorer software**² to support engagement events. The functionality includes choosing an avatar who can walk, run or cycle around the model, with customised gamified tasks which help and guild the user through the engagement activity which highlights key messages of the scheme. This can include seeing before / after, see multiple options, interact with non-playable characters for additional information, and leaving and or liking comments. The system can be set-up as a multi-player environment enabling family groups to interact with each other.



Urban Explorer software in use at various engagement events

² [Urban Explorer software](#)

Touch table compatible ³

All digital twin models developed by Digital Urban will be touch table compatible, enabling them to be set-up on media tables where groups of viewers can have a drone or pedestrian view of the digital 3D model. Users can pan, zoom, and switch between options.



³ [Touchtable](#)



Touch table examples from various engagement events

Digital Post-it Comment software ⁴

Building on our experience of running consultation events, we have added a new feature, enabling users to provide immediate feedback and comments when exploring the digital models, this software can be integrated with any of our other products which form part of our offer for this project.

This gives the client access to information such as preferences, ideas, comments from participants at events to inform your project.

⁴ [Digital Post-it feedback software](#)

