Bentley Education

Digital twin modification plan template

This template is designed to support universities in maintaining an accurate and up-to-date campus digital twin. It outlines basic steps to follow when changes happen on campus, such as new buildings, refurbishments, or system updates. The aim is to keep things clear, collaborative, and easy to manage.

As part of your modification plan, you will need to consider the following.

- **When the campus digital twin will be updated**
  For example, you might update it when:
  - a new building or renovation is completed
  - classrooms, labs, or offices are changed
  - new equipment or systems are added
  - sustainability or accessibility projects are carried out.
- **Who can request changes**
  For example, this may be one or more of the following:
  - Estates or Facilities team
  - IT Services
  - Academic or research staff
  - Students (with staff approval)
- **How to approve changes**
  For example, the approval process might involve:
  - one person (e.g., the digital twin lead) checking the request
  - a small team reviewing the impact
  - a group giving final approval if needed.
- **Making the change**
  - Update the digital twin using your usual software. (Ensure BIM data reflects design and construction updates. Conduct geospatial surveys to collect accurate data on new or altered physical features.)
  - Apply changes to 3D models, GOS layers and live systems as needed.
  - Keep track of which version was changed and when.
  - Make sure someone checks that the update is accurate.
- **Keeping a record**
  - Ensure all updates are documented with appropriate tags, timestamps, and source information.

    - Log the following each time a change is made:
        - Date of change
        - What changed and why
        - Who made and approved the change
        - Any impact on teaching, research, or operations
- **Telling people and training if needed**
    - Let staff or students know about big changes.
    - Offer simple training if needed.
    - Use Teams, email, or your intranet.
- **Checking the twin regularly**
    - Schedule routine checks to verify the twin accurately reflects the physical environment
    - Enable users to report issues or recommend improvements (e.g., via Teams, intranet, or feedback form).

This completed example shows how a modification plan could be used to record, approve, and implement a significant change to the campus digital twin.

1. Change identification	
Element	Details
Trigger events	Renovation of the main library ground floor
Initiating stakeholders	Estates and Facilities teams
Change request format	Submitted via the university's CAFM system on 02/02/2025

2. Approval workflow		
Step	Responsible party	Notes
Initial review	Tom Jones, Digital Twin Champion	Confirmed relevance and data completeness
Impact/risk assessment	Tom Wright, Data Steward	Assessed compatibility with current BIM and GIS systems
Final approval	Campus Planning Committee	Approved at the March 2025 monthly meeting

3. Change implementation		
Item	Method or tool used	Notes
Data update protocol	iModel updated and synced with campus GIS system	Models validated against as-built drawings
Version control strategy	Stored in SharePoint with version tracking enabled	Old versions archived and tagged
Responsible party	Laura Chen, BIM Lead (Estates)	Completed update on 10/03/2025

4. Documentation and audit trail	
Element	Details
Date of change	10/03/2025
Description	Library ground floor layout updated to reflect new open-plan study zones
Rationale	To accommodate increasing student numbers and flexible group study needs
Submitted by	Sophie Adams, Head of Campus Development
Approved by	Campus Planning Committee
Affected systems	BIM model, campus wayfinding app, room booking system
Academic use impact	Updated layout supports extended library hours and accommodates 25% more students

5. Communication and training		
Activity	Description	Frequency
Stakeholder notification	Email sent to library staff, Estates, and IT	Once, post-update
User training	Quick-start guide for library team on new space booking interface	Single session provided
Student communication	Digital signage and student email newsletter update	One-time message in early March

6. Periodic review			
Activity	Frequency	Responsible role	Output
Digital twin accuracy audit	Quarterly	GIS analyst	Audit confirms layout reflects current use
Modification plan review	Annually	Digital twin governance team	Plan updated in March 2025 to reflect new stakeholder roles