The Digital Twin of the Construction Site – Visual Support for the Management of Construction Sites

Project context
The use of digital building models in planning and documentation of construction processes and an increasing amount of available data on the state of construction make way for the development of virtual construction site twins. Current static twins implemented at the chair using the Unity games engine support the setup and layout of construction sites (so called BIMsites).

Your objective
The goal of this IDP is to enhance the static BIMsite by a feature that visually updates the digital construction site twin if relevant construction steps are completed or machines/objects significantly move. Therefore, algorithms have to be created, which identify relevant triggers from the data generated on site (e.g. telematics data, progress reports). The next step is to connect the virtual and physical environment by overlapping the coordinate systems. Finally, the interplay of the twins can be demonstrated using tracked construction equipment.

Your profile:
- You are curious, motivated and like to create stuff
- You are proficient in English or German
- You work in a structured, independent and diligent way
- You do not need to know how to operate construction machinery or any other construction-related topics
- If you read up to this point, you are very likely motivated enough for the task
- A background in games engineering and/or the Unity games engine comes in handy

If you are interested in this IDP, send a short motivation letter, transcript and CV to
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