

10. Digital technology in construction

Worksheet 5: Uses of augmented reality in construction (learner)

Read the following case study about augmented reality (AR) underground asset mapping tool.

Case Study: Morrison US tests AR underground asset mapping tool

Morrison Utility Services has tested 2D and 3D augmented reality (AR) to view and map underground services prior to excavation. Morrison has partnered with Vinci subsidiary Eurovia UK for the supply of its AR technology, Avus (short for Augmented Visualisation of Underground Services), which is able to identify and locate pipes to within 5cm and offers as-built video capture of geospatial information.

The footage is then used to create detailed 3D point cloud models that ensure accurate visual records, effectively providing 'x-ray vision' of the work completed, utility layout and geology for future works. The resulting AR map can be accessed on a smartphone or tablet. After an initial trial was successfully conducted by a Morrison team working on a bypass and pressure relief valve installation in South London in October 2020, Morrison decided to test the Avus technology on its work for water companies.

Andy Carter, director of IT, innovation and improvement at Morrison, commented: "Areas in which we are always looking to innovate are born from real-life business challenges. AR is paving the way for many operational processes in our sector to become safer and simpler."

He explained that using emerging and innovating technologies such as these ensured safer working practices. By enabling engineers and operatives to view buried networks virtually via smartphone devices, the risk of service strikes was minimised. In addition, the precision offered by the technology means that essential infrastructure works can be delivered more quickly and efficiently. This has the added benefit of keeping disruption to the public to a minimum.

Sources: [AVUS - Augmented Visualisation of Underground Services](#).

1. What is the purpose of the AR underground asset mapping tool?
2. What equipment is required to access the system?
3. What are the benefits of the technology?

