This project has explored the feasibility of using Augmented Reality to manage maintenance in the nuclear industry; We have combined different technologies such as location tracking, information overlays, 3D modelling and asset management software to create a system capable of providing the user with role-specific information on assets in real time; This innovation will reduce the possibility of human error and allow faster in-field access to all relevant information, reducing personal exposure to potentially dangerous environments.

A central database of a CAD model of the plant is created with RFID tags for each location on site; A range of hardware components on a tablet computer are used to triangulate the operator’s position and direction; A central database can return the relevant CAD models for the location (removing the need for all the information to be stored on one device); Software has been written to use the tablet device’s gyroscope to determine the orientation of the device and return the Augmented Reality overlay on the tablet screen.

Powerful visualisation and communication which can be utilised throughout the lifecycle of a project; Instant access to accurate project data through a mobile device; Augmented reality provides a perspective of the digital environment in the context of the real world.

Costain first trialled the application of augmented reality on the M1 junction 12 in 2011; In 2012, Network Rail London Bridge Redevelopment won the Building Award BIM initiative of the year for the benefits of augmented reality Costain used to visualise construction activity.