

AUGMENTED REALITY MAINTENANCE SYSTEM



» EXPLORING THE BENEFITS OF AUGMENTED REALITY IN THE NUCLEAR SECTOR

DESCRIPTION

- 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.

SOLUTION

- A central database of a CAD model of the plant is created with RIFD 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.



BENEFITS

- Powerful visualisation and communication which that 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.
- 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.

CURRENT STAGE OF DEVELOPMENT

- Costain first trialled the application of augmented reality on the M1 junction 12 in 2011;

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