

## CASE STUDY: Camera Control Cabinets

### CHALLENGE

Our customer required 224 camera control cabinets for the security of their site.

Bilfinger UK were awarded the contract for the design, build and test phase of the project.

The contract value of circa £2.5M.

### SOLUTION

- We worked closely with the customer to create a design compliant with all of their project requirements.
- Our industrialisation team created a specific production cell within our Panel Design & Manufacturing Facility to provide bespoke manufacturing equipment and processes.
- We delivered the project cost, quality, environmental and delivery requirements successfully.



**BENEFITS** | Outsourcing | KANBAN System | Point of Use Material Storage | Automated Tooling |  
| Bespoke Manufacturing Equipment, Processes & Documentation | Dedicated Project & Industrialisation Team |

# Technical Information Summary



- The camera control cabinets were required to cover the overall security perimeter for a key nuclear site in the UK.
- Bilfinger UK produced a dedicated test rig (*predator camera, PTZ camera & PIDS units*) to simulate real life operating conditions.
- We worked on the project for a circa 7000 manufacturing hours.
- A dedicated project team was deployed.
- A product prototype was produced for industrialisation of the design.
- A fully industrialised design and stage build process was implemented, which included a bespoke dedicated production cell design.
- A KANBAN system was installed and an integrated test was delivered.

## CASE STUDY: Export Control & Monitoring

### CHALLENGE

Our customer had a number of ponds, which were used to safely store nuclear waste for short periods of time.

These storage ponds were not suitable for long term storage so as part of the decommissioning activities this nuclear waste had to be moved into long term storage solutions, which had associated risks such as hydrogen build up.

Bilfinger UK were awarded a contract to provide a solution to resolve this issue and to effectively manage the waste thereafter.

### SOLUTION

- We designed and implemented the control system using a Wonderware System Platform, a Rockwell ControlLogix PLC and plant simulation software.
- We included waste agitation within the control system to avoid the potential of hydrogen building up and becoming a hazard.



**BENEFITS** | Implementation of a Full Site Simulation Environment | Increased Waste Storage Time |  
| Effective Nuclear Waste Move, Track & Store Sequences | SCADA System KPI Monitoring & Reporting Integration |

## TECHNOLOGY USED

- SCADA/HMI – Wonderware System Platform.
- PLC – Rockwell ControlLogix.
- Historian/MES – Wonderware Historian.
- Communications – Profibus , Modbus TCP/IP, ControlNet, Ethernet and OPC.
- Networks – Hirschmann, fibre optic and ethernet.
- Bespoke Software – VB/VBA and enhanced functionality (*prompts and sequences*).
- Others – PICS simulation and full site simulation development system.
- Management – Strict customer requirements and standards.
- Panels – Server, marshalling and PLC panels.

## CASE STUDY: Nuclear Waste Effluent Treatment Project

### CHALLENGE

Our customer required a cyber secure control system upgrade as part of their control system expansion.

They needed to integrate their cybersecurity life cycle process into a traditional control system design to address many cyber related risks such as obsolescence and supportability, system availability, integrity and confidentiality, secure operational technology application design and secure operational technology infrastructure.

Bilfinger UK were awarded the contract to deliver the control system upgrade and cybersecurity solution.

### SOLUTION

- We executed the cybersecurity life cycle process in-line with IEC62443, to ensure the appropriate assessment of cyber risks and implementation of chosen technologies according to risk was implemented.
- We leveraged Microsoft Windows security technologies as part of the solution and provided patch management and a secure network infrastructure.
- We provided an integrated Network Monitoring System (*NMS*) to monitor and report on functions.



**BENEFITS** | Removing Obsolescence | Enhancing Operations | Enhancing Supportability | Secure by Design |  
| Improved Data Connectivity | High Reliability & Availability |

# Technical Information Summary



## TECHNOLOGY USED:

- SCADA/HMI – Archestra 2014, ESXi Server 2012 R2 VMs and FTView ME.
- PLC – ControlLogix PLCs.
- Cisco IDS – FirePower System V6.4.
- Networks – Cisco/Rockwell Network Devices IE4000/Stratix and EthernetVirtual LANs.
- Management – Full project life cycle using our ISO 9001 TickITplus accredited quality management system.
- Panels – Server and PLC panels.