

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: Wind Farm Installation & Testing

CHALLENGE

Our customer required 14 38t containers to be installed to the base of their wind turbines on their wind farm and to be tested on-site.

The containers would house a transformer, control panel, DC tripping unit and switchgear.

Bilfinger UK were awarded a contract to deliver the containers with initial supervision by the container manufacturers in Germany.

The contract value of £250K.

SOLUTION

- We were responsible for the unloading of the container, with close site liaison for arranging delivery times, requirements and traffic management.
- We completed additional modification works and LV testing of wind turbine container substations.
- We provided HV testing of switchgear, transformer signals and phase indication.
- We supplied scaffolding, access and generators as required.



Technical Information Summary



- Due to the design/fabrication of the concrete container our customer used a leading manufacturer in Germany to complete the build and LV internal electrical works as part of a packaged substation solution. However, on review of the specifications it became apparent that the equipment and build levels provided by the German manufacturer would not meet UK specification.
- Bilfinger UK procured and shipped the correct equipment to Germany and provided a team of three supervisors to oversee the internal container works and ensured that all dispatch dates were met.
- The program of site work was scheduled for over the winter period, and adverse weather conditions required significantly increased levels of management, planning and occasional rapid response. To ensure that all deliveries were able to access the final location on-site and that they would be offloaded in the within the allocated time slot our site manager had to develop good lines of communication and have continual correspondence with not only the crane company and haulage company but also with the site traffic planning department.
- Bilfinger UK had to ensure that the crane and haulage simultaneously arrived and was met by a snow plough at an agreed time when no other HGV's, dump trucks, or roadworks would impede the delivery on its way up or back down the windfarm access roads. This is because any issues would have meant that the vehicles may be stranded on-site overnight, but due to our planning and management this was successfully avoided.

CASE STUDY: Tank Transfer & Dosing Skid

CHALLENGE

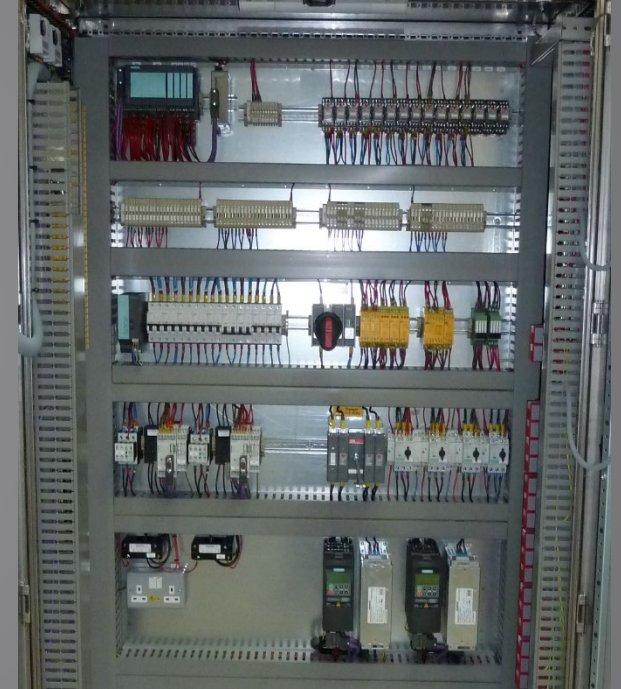
Our customer required an M&E system to increase the rate of gold extraction at a mine in Ghana.

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

The contract value was £180K.

SOLUTION

- We designed, manufactured and tested the transfer and dosing skids; including all associated control panels, metering, pumps, pipework and fittings.
- We provided the automation software and fully simulated live conditions.



BENEFITS | Full Electrical, Fluid & Software Simulation Tests | Turnkey Solution | Mechanical Skid Design |
| Flow Rate Analysis | Fully Passivated Skid |

Technical Information Summary



- The gold cyanidation/gold leaching process is a hydrometallurgical technique for extracting gold from low-grade ore by converting the gold to a water-soluble coordination complex. It is the most commonly used leaching process for gold extraction.
- A PLC control system was deployed to monitor and control all metering, pumps, pipework and fittings on the skid.
- All software for project was created by our software engineers.
- 100 Litres per hour was the required flow rate.

CASE STUDY: Bespoke Hyperbaric Monitoring & Control System

CHALLENGE

Our customer required a hyperbaric monitoring and control system to be produced for an offshore deep sea diving support vessel.

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

The contract value was £390K.

SOLUTION

- We designed, manufactured and tested a bespoke system consisting of 23 control panels and desks.
- We met the design, quality, cost, environmental, and delivery targets of the project.



BENEFITS | Collaborative Effort | Fully Simulated Tests | Compliance with DNV Regulations |
| Simulated Ergonomic Design & Inspection Process | Dynamic Approach to Design Change |

Technical Information Summary



- Dive support vessel destined for the repair of a gas pipeline on the North Sea floor reaching depths of 425ft.
- As lead technical solutions provider, our customer, a world leader in automation technology products, required a trusted systems integrator partner capable of providing a streamlined modern, fit for purpose operator display and control system.
- A hyperbaric system provides a chamber and diving bell complex consisting of a series of pressurised vessels and locks interconnected by access trunking to allow deep sea divers to safely move between work and living areas.
- A hyperbaric system enables hyperbaric oxygen therapy to take place. It involves breathing pure oxygen in a pressurised environment. Hyperbaric oxygen therapy is a well-established treatment for decompression sickness, a potential risk of scuba diving.
- The desks were designed in such a way that all monitoring screens can be viewed in one fell swoop as visibility of pressure change icons becomes paramount for those at the ship's bridge chambers.
- Due to the mission and safety critical nature of the system, the entire system underwent a full and comprehensive 12 week electrical, software and SCADA simulation test at our Panel Design & Manufacturing Facility in Haydock prior to dispatch.

CASE STUDY: Power Distribution Panel

CHALLENGE

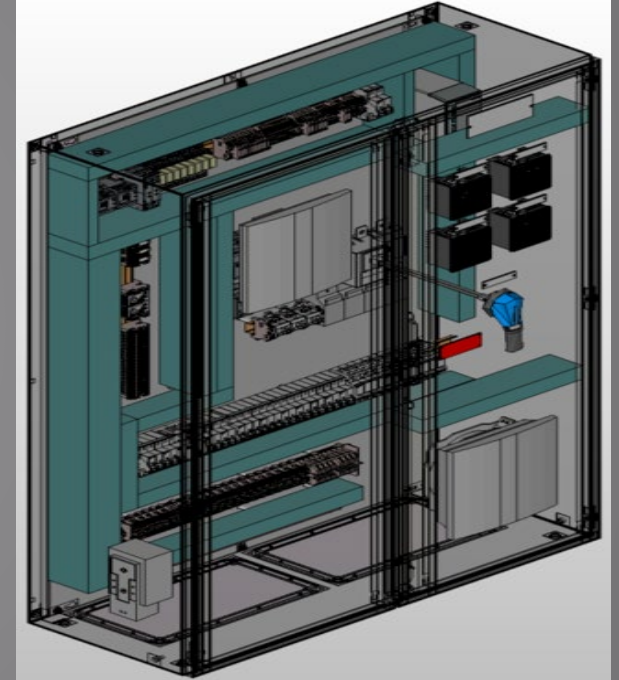
Our customer required a power distribution panel to be produced that will form part of a compressor container.

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

The contract value was £19K.

SOLUTION

- We designed, manufactured and tested a power distribution panel.
- The design was created in an intelligent design and modelling software EPLAN Pro Panel which enabled us to create a digital twin of the panel.
- The EPLAN documentation was then used to manufacture and test the distribution panel.



BENEFITS | Collaborative Design | Digital Twin/Prototyping | Problem Identification & Resolution |
| Automatic Device, Wire & Page Numbering Using EPLAN | Automatic Reports Generated |

Technical Information Summary



- We provided supply and control for two 22kW compressors, container air conditioning supplies, 13 container heaters and interface with the fire suppression system.
- We provided a 400VAC/3ph/50Hz panel with a design ambient of +50°C.
- EAC (*Eurasian Conformity*) components were used.