

**Glenfield Invicta** DELIVERING PROJECT SOLUTIONS



## ENGINEERING CAPABILITY

Delivering Project Solutions



**Glenfield  
Invicta**

*Delivering Project Solutions*



# WHO WE ARE



**From ‘concept to completion’, Glenfield Invicta End to End Project Solutions provide market leading valve and penstock engineering excellence, across a multitude of water and non-water infrastructure projects.**

Glenfield Invicta combines together the strength and unique proposition of Invicta’s site solutions, penstocks and environmental expertise, and Glenfield’s experience and expertise in specifying and managing the large Dams, Reservoirs and Hydropower schemes. Supported by the vast product portfolio from AVK UK and its sister businesses.

We are market leaders distinguished by our industry expertise, we have been designing and manufacturing specialist engineered valves and penstocks for more than 160 years and we stand behind every product we install for life, offering some of the best extended warranties in the industry.

Our experienced and multi-skilled project team work closely with our partners and key stakeholders to ensure the project is executed to exacting standards.

Our historical record for the design, supply and installation of engineered valves and pipeline equipment projects delivered safely, on time and to the highest standards, in arduous conditions, are what set us apart. This specialist capability has made the Glenfield, INVICTA and AVK brands synonymous with engineering excellence worldwide.

In addition to our proactive programme of strategic acquisitions, we continually invest in our product and service offering. Glenfield Invicta Project Solutions has the people, processes and systems to support optimised operational efficiency when meeting the needs of our partners.

All products and service solutions are provided in accordance with all the relevant UK, European and International standards.

***Glenfield Invicta has a clear vision, ‘To provide market leading valve and penstock engineering excellence across water and non-utility infrastructure projects’***



# WHERE WE WORK

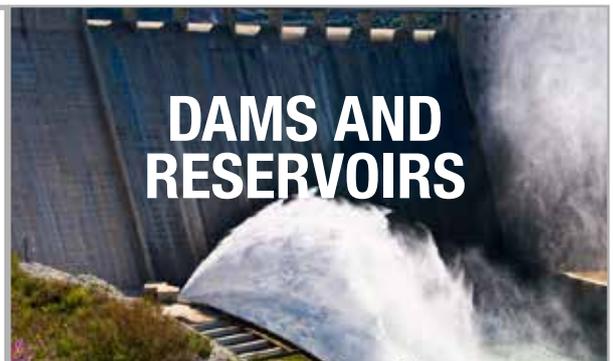
Our Project Delivery team install and supply an extensive range of valves, hydrants, penstocks, fittings and accessories, including specialist large diameter products as well as standard sizes. We are experienced in design, planning and implementation across a broad spectrum of water and waste water projects. Our wide range of products and accessories in specialised materials, conform to recognised international standards and provide infrastructure resilience for critical water assets.



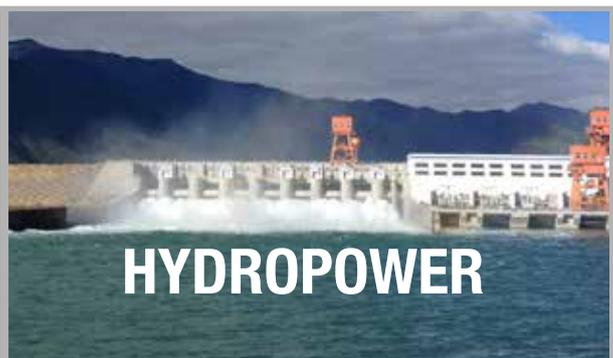
We understand the environmental challenges faced and have a proactive approach to our product and service offering. With over 35 years' experience, supporting major contracting organisations, Mechanical Electrical Instrumentation and Automation (MEICA) specialists, Civil Engineering companies and the Environment Agency, National Rivers Authorities (NRA) and Water companies with their water management and flood protection projects.



We have an extensive portfolio of completed Dam and Reservoir projects delivered worldwide. One of our key capabilities, is to specify, design, manufacture, install and commission valves unique to this segment such as free discharge valves and submerged discharge valves. Our in-house valve and installation refurbishment packages are more and more in demand globally for this segment.



We have considerable experience in providing design and consultancy services to deliver every aspect of new or refurbished valve installation, testing and commissioning. Due to the nature of Hydropower projects, flexibility in product design is highly important and we work closely with our customers to ensure that the optimal valve size and type is chosen for each application.

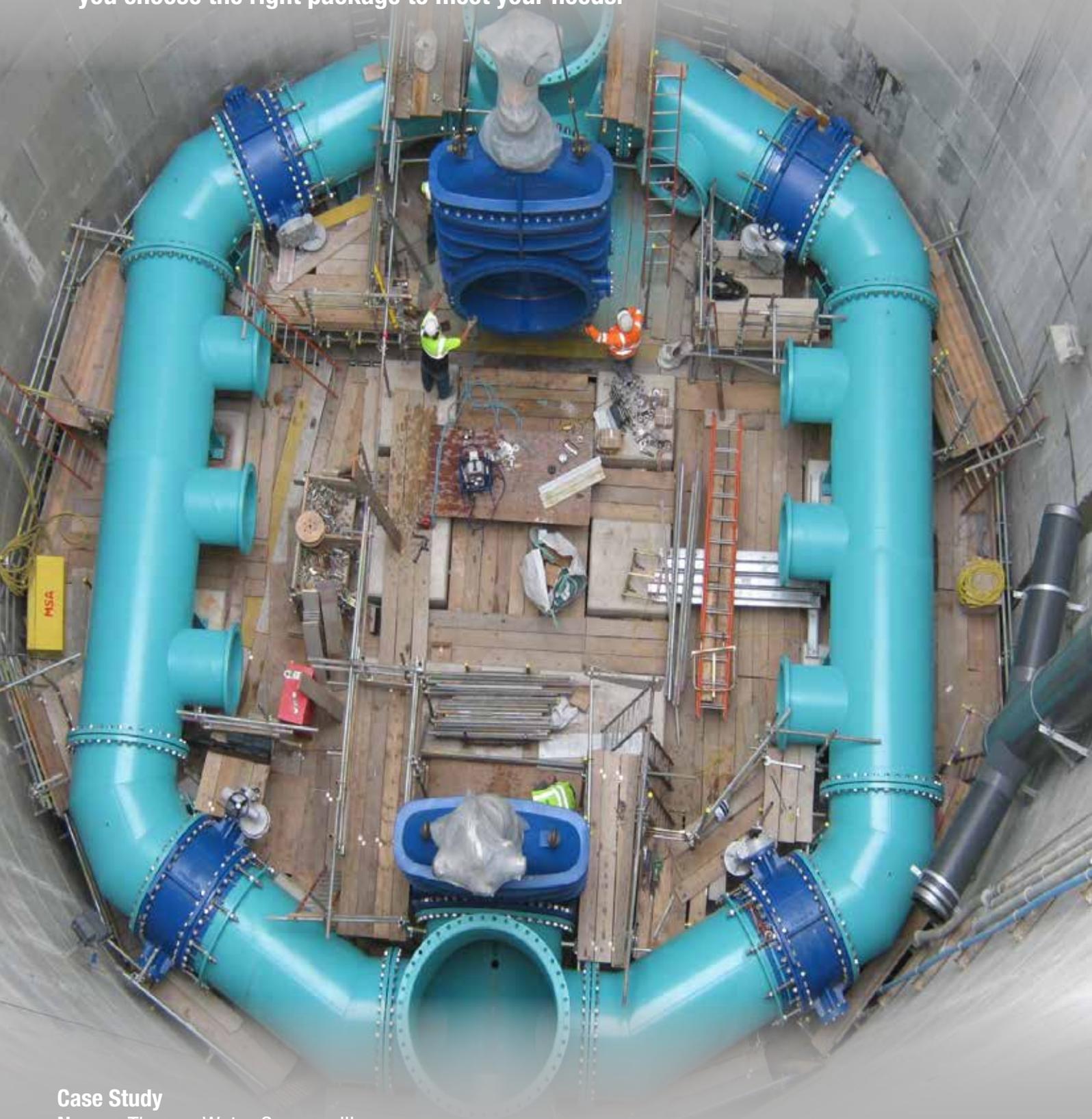


Valves and penstocks are found in many industrial and non-water infrastructure applications. Controlling water levels in a dry dock or optimising an industrial manufacturing process; whatever your challenge, we have resolved similar problems in the past. We have specialist confined spaces training and other ancillary skills that enable us to work effectively in the most demanding site locations and within tight time frames.



# OUR SERVICE CAPABILITY

Our Project Solutions offering consists of easily defined service packages from feasibility and site audit to asset refurbishment and installation, through to commissioning and warranty. We can help you choose the right package to meet your needs.



## Case Study

**Name:** Thames Water Coppermills

**Work:** Supply and install two DN1800 full bore metal seated gate valves.

# WHAT WE DO

Inspection & Reporting | Surveying | Design | AutoCAD/Solidworks/CFD | Sizing | Product Development | Stockholding

## Design and Consultancy

Contact us for engineering consultancy services. We provide full site surveys, audit and feasibility studies, inspection and design proposals for new installations, or plans to repair, upgrade or expand existing plant. Our engineers are experienced in all aspects of design work. Qualified to perform 3D CAD, Solidworks and modelling including CFD analysis, we can help you solve your engineering challenge.



## Project Management

Because of the breadth of our operation and resources, fundamental to our offer is complete Project Management of all stages of a project from design, product availability, labour, logistics, training to handover and disposal, this ensures that we have full control to deliver your project to time, and to cost.

## Installation and Commissioning

Our site installation team is comprised of highly qualified, certified and experienced engineers of various disciplines including design, installation, valve and penstock application and production.

This wealth of capability ensures unrivalled competence at all phases of a project ensuring that your assets are perfectly designed, manufactured, installed, tested and commissioned.

Our "right first time" approach to all aspects of a project cycle, will give you the confidence that you will be left with a high quality installation from a company that stands behind its products.



## Service and Maintenance

We are renowned for delivering complex projects on time and to budget, protecting our customers reputations and ensuring the security and integrity of supply and service. For many years we have serviced hundreds of miles of the water distribution network and its infrastructure.

We make sure that your assets are serviced and maintained to ensure compliance with all the relevant environmental and public health regulations through scheduled service and maintenance visits. Glenfield Invicta has significant experience in delivering real value to our customers and their customers through sharing our engineering expertise and knowledge.

# WHAT WE DO

Repair & Maintenance | Refurbishment | Testing | Commissioning | Licenced Disposal | Warranties | Servicing

## Repair and Asset Refurbishment

With capital cost increasingly coming under pressure, network owners and operators across all segments are needing to "sweat the asset" i.e. increasing the life of the asset beyond its working life to defer the cost of replacement.

Therefore where applicable, the Glenfield Invicta team may offer a variety of solutions from maintenance to refurbishment or repair, as part of their recommendations rather than replacement, providing you with the option of best value decision making.

This will either involve removal to refurbish the unit at one of our dedicated workshops, or if required, refurbishment on site. Whichever, the team will facilitate the entire operation, including any enabling works.



## Training and Technical Support

A project delivered by the Glenfield Invicta team does not end when the project is completed. We offer comprehensive asset operation and maintenance training to your relevant staff and provide full manuals for the assets installed. This ensures that the life of your asset will be both optimal and efficient.

## Ongoing Support and Additional Services

We offer a variety of after sales care including extended warranties, continued servicing and maintenance packages and emergency call out services. In addition we have a wide range of technological support such as our unique asset tracking application, providing you with full traceability of your installed assets, thus ensuring network resilience.

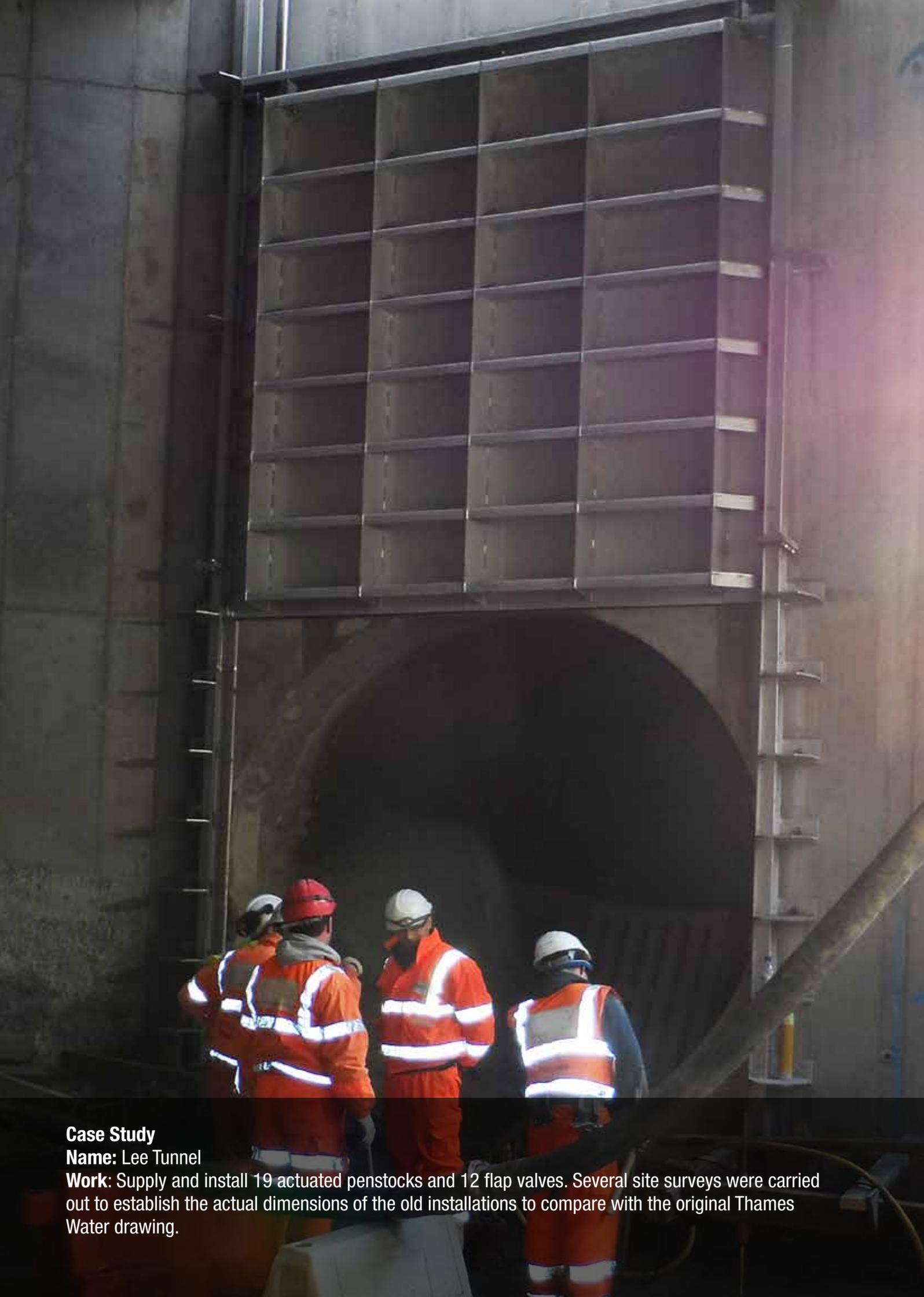




**Case Study**

**Name:** Glenhove and Gowanbank Pumping Station

**Work:** Removal, refurbishment and re-installation of submerged discharge valves situated in chambers used to store drinking water.



### **Case Study**

**Name:** Lee Tunnel

**Work:** Supply and install 19 actuated penstocks and 12 flap valves. Several site surveys were carried out to establish the actual dimensions of the old installations to compare with the original Thames Water drawing.

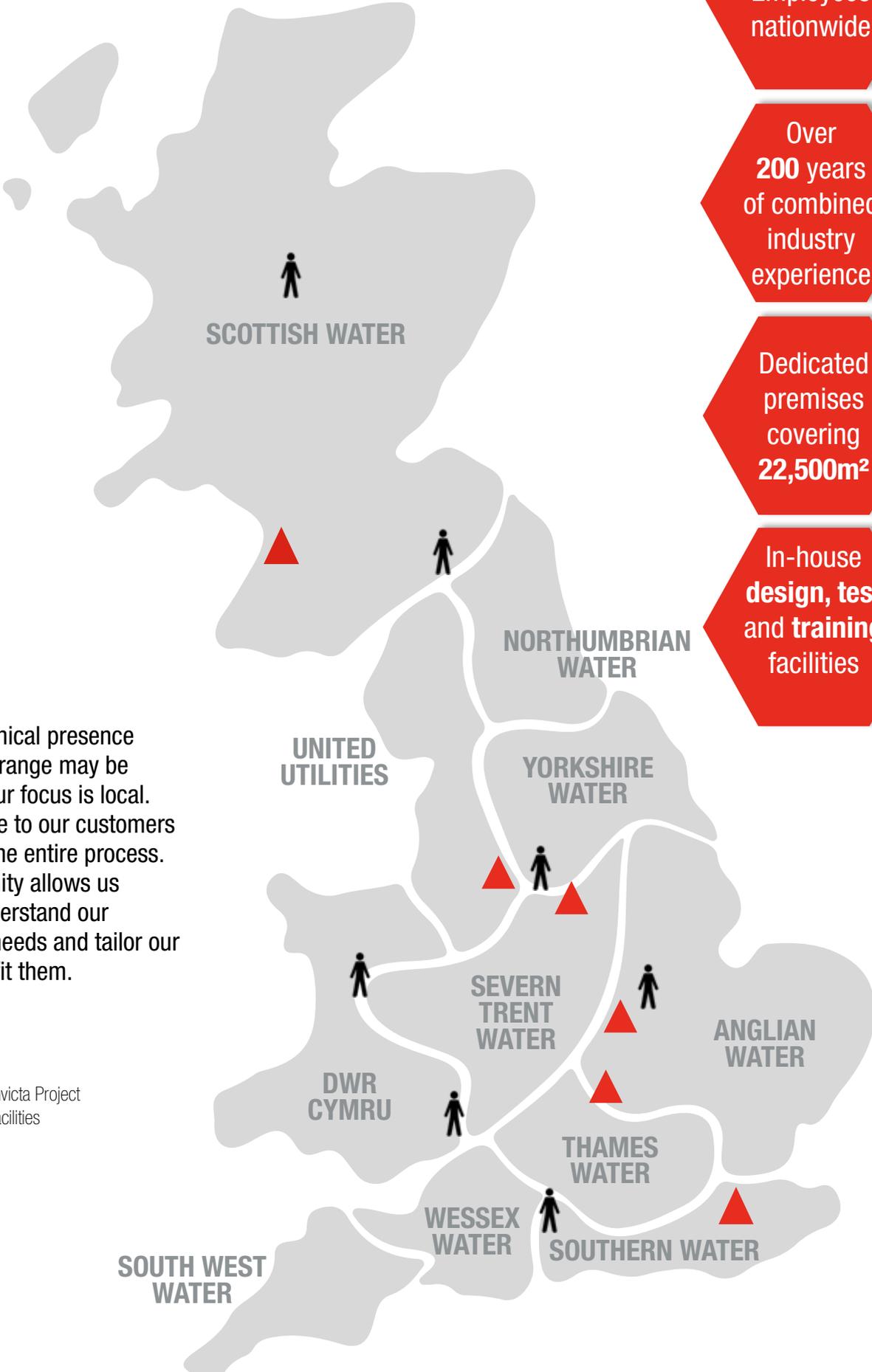
# HOW WE DELIVER

**650**  
Employees nationwide

Over  
**200** years  
of combined  
industry  
experience

Dedicated  
premises  
covering  
**22,500m<sup>2</sup>**

In-house  
**design, test**  
and **training**  
facilities



Our geographical presence and product range may be global, but our focus is local. We stay close to our customers throughout the entire process. Close proximity allows us to better understand our customers' needs and tailor our solutions to fit them.

 Glenfield Invicta Project Solution Facilities

# OUR CREDENTIALS



## Health & Safety

Certified to OHSAS 18001, we are dedicated to offering our partners the highest safety standards. Our products are part of complex systems, handling vital processes every day. Our products fulfil and often exceed international standards and approvals and all new products undergo rigorous testing in line with our stringent quality control procedures, including computer simulation, prototype tests, accelerated lifetime tests, destructive tests and practical field tests.

## Supply Chain

Products manufactured by the AVK Group are developed and processed in modern factories using state of the art technology and robotics for precision and consistency. It is essential that the quality level of all AVK products fully comply with customer requirements and expectations.

## Strategic Partner Selection

Our selection of suppliers is based on strict investigations and auditing, we test their ability to supply materials and services in accordance with the set rules and standards required by us. In principle suppliers must live up to the same rules and standards that apply to any of our own production units.

## Quality Management

Our uncompromised approach to quality has created a foundation of respect and a sense of security amongst our partners. All of our factories are continuously subject to quality improvement and each factory is certified according to ISO 14001 and ISO 9001. In addition the majority of AVK companies are also certified according to ISO/TS 29001, providing global consistency and improved assurance in the supply of quality goods.

## Environmental Management

Certified to ISO 14001, we are committed to conducting our business operations in an environmentally responsible manner and recognise the need to continually improve our operations in order to reduce the effects on the environment. We have in place a number of environmental objectives and targets against which we measure our improvement in environmental performance, including a 5 year carbon reduction programme.

## Modern Slavery

The AVK group of companies is committed to ensuring that there is no modern slavery or human trafficking in its supply chains or in any part of our business. The Group acts ethically and with integrity in all its business relationships. The Group promote and implement effective systems to ensure slavery and human trafficking is not taking place anywhere in the business or its supply chains.

## Corporate Social Responsibility

The AVK Group of companies actively support the Global UN Goals, focussing on a sustainable future for all. As global market leaders our goal is to minimise water losses and contribute to a more sustainable future, where resources are used and managed wisely. We are proud to be one of the leading producers of valves and penstocks in the international market, this prominent position demands high ethical standards, a responsibility that we recognise and uphold through the UN Global Compact Principles.

Our full range of policies can be found on the Glenfield Invicta website: [www.glenfieldinvicta.co.uk](http://www.glenfieldinvicta.co.uk)



WIMES Compliant  
REG 31



# OUR WIDER RANGE



## Case Study

**Name:** Woolston Waste Water Treatment Works  
**Work:** Design of self-supporting framework to accommodate knife gate valves in a waste water treatment works.

AVK Gate Valves DN80 -1800



AVK Swing Check Valve with Lever and Weight DN50 -1200



AVK Knife Gate Valve DN50 -1000



AVK Tensile Resistant Coupling DN 350 -1200



MODEL CH Fixed Cone Valve DN200 - 2200



Submerged Discharge Valve DN200 -1800



Bonneted Gate Valve DN200 - 1800



Needle Valve DN300 -1000



## Case Study

**Name:** Sloy Hydro Station  
**Work:** Refurbishment of two needle discharge valves – 48” and 12” - from a hydroelectric power station.



## Case Study

**Name:** Lee Tunnel  
**Work:** Supply and installation of 19 actuated penstocks and 12 flap valves on Britain’s largest water engineering project for 20 years.

AVK Penstock with Non-rising Spindle DN200 - 1000



AVK Stop Logs DN150 - 2000



Multi turn and quarter turn actuators



Flap Valves



NB: Content is correct at time of printing. Designs, materials and specifications shown are subject to change without notice due to our continuing programme of product development.

# WHAT OUR CUSTOMERS SAY...

*"There has been a positive and collaborative approach between us and the Glenfield Invicta Project Solutions team. The combination of innovative thinking and a resilient solution meant that we could move forward confidently."*

*"I would like to thank you for all your help with this project. All the parts fitted perfectly. All the work your company has done to get the parts to us so quickly is very much appreciated."*

*"Glenfield Invicta Project Solutions' engineering team designed our new valve to fit into the existing footprint, reducing the need for expensive and time-consuming civil works - great work."*

*"Many thanks for yesterday which proved to be enlightening. The dedication and enthusiasm of the Project Solutions team was very impressive and eye opening."*

*"The overall project management excellence and expertise, from concept to completion, was the differentiator between Glenfield Invicta and the competition."*



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