

- modelling and simulation
- control design
- system troubleshooting
- technology transfer and training
- energy efficiency investigation
- software tools

Press Release, 22/11/2013

ISC's Gripper Arm Control System Wins Graphical System Design Achievement Awards

The Glasgow based control specialist, Industrial Systems and Control (ISC) Ltd, has been presented with two Graphical System Design Achievement (GSDA) awards for its bespoke control system developed for controlling Houlder's pile gripper arms for offshore wind farm construction. The NI GSDA awards (uk.ni.com/gsdawards) recognise organisations that develop innovative applications to meet complex engineering and science challenges using the graphical system design approach.

The Gripper Arm Control System (GACS) won on the *Advanced Control Systems* and *Customer Application of the Year* categories, making ISC the first ever company winning the awards in consecutive years. The company's capability in developing and deploying challenging control applications was also recognised last year at the global GSDA ceremony for another collaborative work with Houlder on its offshore Turbine Access System (TAS)[®].

Developed using NI LabVIEW and deployed on NI CompactRIO hardware, the control system ensures the grippers' reliable deployment, stowage and positioning in the horizontal plane through a joystick located in the operator's chest pack.



In the keynote presentation at the annual graphical system design technical conference and exhibition, NIDays, held on 20 November 2013 in London, Dr Andy Clegg, Managing Director of ISC, explained the various challenges encountered in the project. Weighing 70 tons each, the gripper arms have been designed to handle piles of varying diameter (up to 6m), length (up to 65m) and weight (up to 700 tons). Besides the scale, the control project also faced short development time (4 months from requirements to deployed hardware) and limited availability of the final system for commissioning as MPI Discovery,

the vessel for which the gripper arms were engineered, was on almost continuous charter.

Through an emulator built in LabVIEW to simulate the system behaviours under both normal and fault conditions, ISC engineers were able to maximise office based testing. Dr Clegg attributed the project success to the creativeness and rigour of ISC engineers, effective cooperation with Houlder engineers and MPI Offshore, and the support from NI. Learn more about the GACS at: <http://goo.gl/QvGTOD>.

About Pile Gripper Arms

Engineered by Houlder for the offshore vessel MPI Discovery with the support and involvement of MPI Offshore, the pile gripper arms hold and maintain the vertical position of a long and large steel monopole while it is driven into the seabed to up to 40m to form the foundation of wind turbine tower installation. Learn more about the gripper arms at: <http://goo.gl/TCWceG>.

About Industrial Systems and Control Limited

ISC is a highly regarded specialist in control, modelling and simulation technologies. Established in 1986, ISC has helped clients tackle novel and difficult control problems, working across a wide range of industries including automotive, marine, defence, power generation and oil/gas. For more information, visit the company website at: <http://www.isc-ltd.com>.