

Customer Success Story: Seajacks

Market segment
Marine and Offshore

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Eaton Hazardous Area Communications solution for offshore wind farm installation vessel

Location:

UK and North West European offshore waters

Challenge:

To provide a highly integrated voice, data and alarm communication system, suitably ruggedized and approved for its target offshore environment. This will deliver the functionality, interoperability, ease of maintenance and scalability essential to the wind-farm installation vessel application.

Solution:

A system provided by Eaton's Hazardous Area Communications (HAC) Group based on its unique and comprehensively certified Gitiessse Integrated Multimedia Communication System (IMCOS).

Results:

By installing a successfully commissioned, highly integrated, application-specific and rugged voice, data and alarm communications system from a one-stop partner, Seajacks was able to reduce the time needed for installation and administration. It is a solution in which Seajacks has confidence, and one that it is considering for future projects.

"Eaton's role as a one-stop supplier with a widely-integrated solution has saved us time in administration, as well as technical effort. Their solution has resolved issues of maintainability and upgradeability associated with earlier systems, while providing many new benefits of interoperability, rugged product quality and international support."

Aaron Maas, IT Co-ordinator, Seajacks

Background

Seajacks Scylla is the world's largest and most advanced wind farm installation and offshore construction vessel. The latest in Seajacks' family of five such vessels, her first contract is installing XL Monopiles on the Veja Mate project. Scylla has been specifically designed to meet the harsh environmental demands of working in offshore environments worldwide.

The ABS-classed vessel has more than 8,000 tonnes of available, variable deck load. Equipped with a 1,540-tonne leg-encircling crane and a usable deck space in excess of 5,000 square meters, the unit is outfitted with 105-meter legs which can install components in water depths up to 65 meters.

Challenge

The vessel needs a wide range of sophisticated voice, data and alarm communications systems. This is for operational efficiency and safety, as well as for the wellbeing and entertainment of those on board. Although these all function as standalone systems, integration is also essential to ensure interoperability when required. Systems on earlier vessels were difficult to maintain and upgrade, while lacking the breadth and depth of interoperability desirable for optimum performance.

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Solution

During conversations with Eaton dating back to 2013, Seajacks became aware of a variety of potential improvements. Upgradeability and maintainability issues associated with earlier suppliers' systems could be resolved, while gaining benefits in reliability, functionality, performance, maintainability and scalability.

Eaton supplies a wide range of related and complementary products and, as manufacturers, can ensure that they are truly compatible down to the most detailed level. As a result, Eaton could offer a packaged, engineered solution that included their unique Gitesse Integrated Multimedia Communication System (IMCOS), seamless integration of sub-systems, product quality, scalability and customization effort. Currently, IMCOS is the only system of its kind in the world that is type approved by seven different Classification Societies. These factors, backed by Eaton's experience, technical expertise, flexibility and after sales service around the world where this type of vessel operates all contributed to Seajacks' purchasing decision.

As well as its functionality and integration, the solution complied where necessary with the certifications required by Scylla for her intended operational area, with suitable ATEX and gas, dust and water ingress protection ratings. Components included high power explosion-proof loudspeakers, weatherproof beacons, a HERNIS CCTV system, voice-powered and IP DECT phones, and an FHF MEDC weatherproof IP

telephone system. The supply also incorporated a Public Address and General Alarm (PA&GA) system, and two LAN networks – one for the IP telephones, the other for IPTV - and TVRO and V-SAT antennae. The solution was completed with an Entertainment system handling radio and TV signal distribution, automatic messaging and staff information delivery.

The PA&GA system is interfaced into Scylla's Fire and Gas system, allowing the broadcast of alarms. The telephone system was also especially adapted to Scylla's requirements. Analogue, voice-powered phones have been provided for emergencies and use in hazardous environments. Technicians are provided with wireless DECT handsets having pager functionality so that they can be contacted quickly even if their location on the vessel is unknown. Alarms relating to the vessel's operating machinery can also be sent to the DECT portables.

Additionally, the telephone system has been implemented to comply with Seajacks' unique number coding specification used to contact its offices; users need only 4-digit internal phone numbers rather than 12-digit codes.

The V-SAT antenna handles data for the crew's Internet and email services, and communications for the onboard machinery, as well as the ship-to-shore aspect of Eaton's telephone system. Seajacks asked Eaton to supply the antenna, together with a TVRO antenna, as it boosted Eaton's value and convenience as a one-stop shop, without increasing costs.

Results

Installation was performed by Samsung Heavy Industries using Eaton's engineering documentation and drawings. Commissioning was then carried out by Eaton technicians using logistics support from the Eaton sales representative and their local agent in South Korea.

"Following the original project meeting in February 2014 and the factory acceptance test in January 2015, the project has progressed smoothly in commercial, technical and administrative terms," commented Aaron Maas, IT Co-ordinator at Seajacks UK, "Eaton's role as a one-stop supplier with a widely-integrated solution has saved us time in administration as well as in technical effort. During our inspection in September, we were pleased to see that all equipment had been neatly installed, with clear labelling, and was working correctly. We were also satisfied that modifying or expanding the system as the vessel's population grows will be easy and efficient.

"Further feedback from the crew during November and December confirmed the confidence we had by then conceived for Eaton and their solution. Accordingly, Eaton is now on our approved vendor list - we will certainly consider working with them again on our next vessel installation."



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