APPLICATION STORY

United Electronic Industries & Hydroacoustics, Inc. (HAI)

WORKING TOGETHER TO FIND SOLUTIONS

Hydroacoustics, Inc. (HAI) designs specialized products for a variety of aquatic applications, including communications, seismic exploration, oceanographic data collection, and ocean surveillance. HAI allied with Ocean Power Technologies (OPT) to develop an innovative oil and gas subsea chemical injection system, called the SCIU (**S**ubsea **C**hemical **I**njection **U**nit). Subsea chemical injection techniques are used to mitigate the diminishing effects of buildup in piping and pumping systems used in subsea oil production operations. To design a viable product, HAI needed data acquisition (DAQ) and control hardware that was both rugged and precise.

THE IMMEDIATE CHALLENGES

1. HAI needed the SCIU to be extremely precise in the volume of chemicals it would inject, since at the scale of a massive subsea oil operation, even a small deviation could cause trouble. Injecting too little could increase the risk of system failure; injecting too much would needlessly raise operational costs.
2. The SCIU's hardware needed to be capable of withstanding the extreme temperature and pressure of a subsea oil production operation, thousands of feet below sea level, for up to five years of constant uptime.

UEI'S PATHWAY TO SUCCESS FOR HAI

- ☑ UEI outfitted the SCIU with embedded logging and control hardware (UEIPAC), which could act as a centralized, standalone data collection, logging, processing, and retrieval system and send commands to SCIU components based on real-time data.
- ☑ During uptime, the UEIPAC would receive a variety of digital, analog, CAN bus, and serial data, including metrics from pressure sensors and flow meters, feedback from breaker circuits, pump controllers, and valves, and TCP/IP Ethernet commands from the surface.
- ☑ Based on this data, the UEIPAC would send commands to a range of critical system components, including voltage breakers, valves, and the pump and motor. Additionally, logged data would be transmitted to the surface via Ethernet.

END RESULT

UEI EQUIPPED HAI'S SCIU WITH RUGGED DATA ACQUISITION AND CONTROL HARDWARE THAT COULD GUARANTEE ACCURATE RESULTS IN AN EXTREME ENVIRONMENT.

[WIN] UEI's embedded data acquisition and control hardware helped HAI minimize the amount of vulnerable hardware on the SCIU while providing a robust centralized hub for data acquisition and control.

[WIN] UEI's rugged hardware was a perfect match for the extreme conditions of subsea oil operations.

[WIN] Thanks to UEI hardware, HAI was able to develop a precise, efficient and powerful next-generation subsea chemical injection system that could guarantee results with minimal costs.

ASK US HOW UEI CAN DO THE SAME FOR YOUR COMPANY!

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