Slick Sleuth; M2M and Saving the Environment

by Chris Chase, InterOcean and Ryan Rangel, ClearConnex

In the wake of the BP oil spill in the Gulf of Mexico, prevention and response issues have taken on heightened importance and more public visibility. By utilizing automated spill detection sensors, hydrocarbon releases can be detected in real-time similar to a "security camera" or "smoke alarm" for oil spills. InterOcean Systems, Inc. is a world leader in design and manufacture of premier quality oceanographic and environmental equipment. Slick Sleuth, one of their product divisions and ClearConnex, have partnered to focus on cellular oil spill detection and alarm.

The Slick Sleuth line of oil spill detectors are used in a wide variety of industrial and environmental applications for remotely detecting oil spills in real-time. Should a spill or leak occur, Slick Sleuth provides instant detection and notification, enabling users to contain accidental spills and avert otherwise costly environmental damages, cleanup/mitigation expenses, fines, regulatory penalties, and public relations nightmares. The highly sensitive sensor detects small (micron-level) amounts of oil on calm water, moving water surfaces (outfalls, streams, harbours, offshore), as well as on solid/dry surfaces.

The Slick Sleuth SS300 is designed for oil leaks and spill detection at industrial sites such as: refineries, electrical generation and distribution sites, oil and fuel storage and transfer facilities, manufacturing plants, etc. Typical installation points include: over sumps, retention ponds, oil/water separators, intakes and discharge channels, inland waterways, coastal sites, and other environmentally sensitive sites. Mounting range can be up to 20 -meters above the detection surface.

ClearConnex Inc., an innovative software engineering firm based in Raleigh, North Carolina worked with InterOcean to enhance the Slick Sleuth oil spill monitoring capabilities to include transmitting the monitoring data over the cellular network. To achieve this, ClearConnex extended its mature, proven, hardware agnostic software platform, ClearComm, running on a Sierra Wireless Fastrack FXT009 modem, in order to interface with the SS300. With this pairing, remote monitoring stations can now receive readings from the SS300 over a serial port and adding timestamps for each reading.

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The modem can save this information into files and send it to a remote server over a cellular network provided by Wyless whenever a spill alert occurs, and at fixed time intervals. Going forward, ClearComm can be added to any model Slick Sleuth or add even more functionality to Slick Sleuth as requested by customers.

The systems consist of one or more sensor stations, strategically placed for greatest realization of cost-benefit and risk reduction, and for the earliest-possible detection in/around vulnerable operations and environmentally sensitive areas. Sensitivity is user adjustable for "zero tolerance" clean water applications, as well as for industrial sites where the presence of some oil might be expected, but early warning is still needed for 'catastrophic' spill events.

SS300 and the ClearComm programmed cellular modems are going into oil spill monitoring stations along the Tigris River in Baghdad, Iraq. Some units are being installed mid-river (on locally constructed buoys) and some are being installed on bridge piers and shoreside structures. Additional application examples include monitoring for spills in California's Bolsa Chica wetlands, at the intakes of desalination plants throughout the Middle East and on oil terminal piers along the coast of Brazil.

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