



Assure Compliance with the dashboard-style OPW SiteSentinel® iSite Automatic Tank Gauge System

A global leader in commercial and retail tank gauging equipment seeks a redesign of their flagship tank monitoring and environmental compliance product. EchoViz provides a world-class design that pushes the entire industry to the next level.

Situation

The SiteSentinel® iSite™ is a fuel tank monitoring, inventory management and environmental compliance system designed to work with above ground and below ground fuel storage tanks. The product is sold through the OPW Fuel Management Systems domestic and International distribution network.



The original version of iSite was a monochromatic LED-based product that relied exclusively on bezel keys for limited user input and interaction. It ran on older, embedded hardware architectures that could not necessarily be replaced to support the new version of iSite. EchoViz was tasked with designing a more sophisticated, highly graphical, interactive application incorporating 8 bit color graphics and a Windows CE-based interface that would allow use of a touch-compliant on-screen keyboard within the constraints of the older architecture.

The many challenges in developing the iSite system included, developing a system that was touch-compliant, intuitive, user friendly, reduced operating costs and provided complete business management of a company's fuel inventory and environmental compliance data. It also needed to conform to ISO-based iconography standards and have a navigation system and icon library that could successfully cross language and cultural barriers between American markets, European markets and Chinese markets. All of these tasks needed to be accomplished while running on outmoded hardware as well as functioning seamlessly for the varied sophistication of users (from petroleum engineers to quick mart cashiers) in each market.

Action

Early in the project, EchoViz did extensive research and analysis of the original design, the user base and the goals for the new system. With the knowledge gained, EchoViz designed user flows, a site map and preliminary graphic concepts for the interface and the iconography. Extensive iconography testing and evaluation followed for a full spectrum of users of the system in order to evaluate the icons for comprehension and clarity. Iterative rounds of design refinement and testing followed as the information architecture and system functionality evolved with the overall design.

- The key results of the iterative design process included:
 - Improved Navigation: The Home screen (dashboard) allows the user to monitor the entire system from a central location and view details about any relevant piece of information by touching the associated icon. This approach makes it easy to connect the user to the most needed content without requiring extensive navigation through the application.
 - Easy Sensor/Probe Setup: SiteSentinel® iSite™, when used with IntelliSense™ Smart Sensors and/or wireless options, results in the least amount of conduit and wiring for

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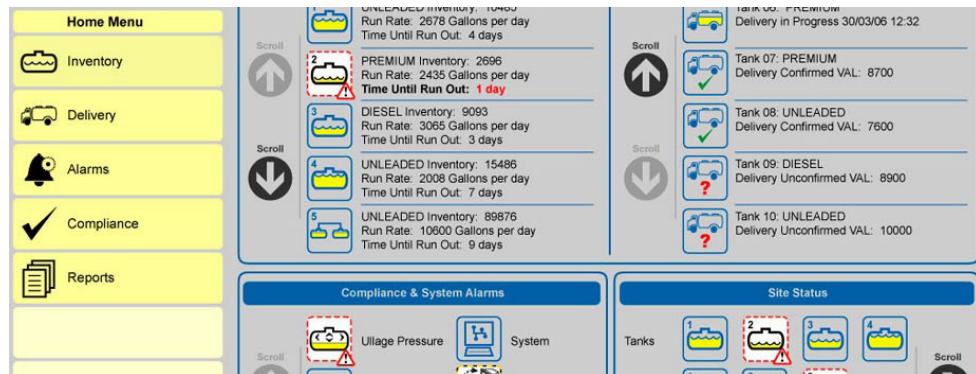


installations and allows for monitoring up to 256 probes and over 1,000 sensors. Full set-up and configuration for probes and sensors can be done on-site with the touch-compliant interface. No remote-setup or laptop logon is required.

- Simplified Hose Point Mapping: Assigning hose points from specific fuel tanks to individual fuel dispensing units is simplified by providing the user with a touch-compliant map of the site. The system then evaluates which hose points are available for connection based on the fuel grades available and allows the user to connect hose points to tanks by touching the tank and then touching the hose point in the edit screen.
- Hassle-free, Worry-free EPA Compliance: SiteSentinel® iSite™, has certified automatic and/or on-demand leak detection capabilities that meet or exceed U.S. Environmental Protection Agency regulatory requirements. The system monitors the leak detection status of the tanks and provides automatic as well as on-demand environmental testing for EPA compliance. If a leak or other problem is detected, the system will automatically notify the appropriate individuals via e-mail, fax and/or SMS so that corrective actions can be taken immediately thus reducing environmental impact and liability.

Result

Today's SiteSentinel® iSite™ systems leverage technology and connectivity while providing the user with easy and direct access to information throughout the system including real-time tank inventory levels, tank volumes, probe and sensor data, reconciliation information, leak detection status and environmental systems monitoring. The iSite system utilizes an information architecture that allows for one touch access to the most important system information directly from the dashboard. iSite reporting provides the customer with all



of the necessary information needed to operate and manage their business effectively and efficiently. It incorporates the Windows®-based technology to allow users to view data via a 15" color LCD touch screen display at the tank site, or, remotely from anywhere in the world; it is the only console in the industry with remote access ability. iSite's dashboard-style presentation of information provides all the critical information a user would want, accessible on a dashboard page. It also strives to keep costs of installation down by requiring the least amount of wiring in the industry, utilizing only a single twisted pair wire Ethernet or wireless interface to the console, allowing space for future scalability.

The result of the redesign was clear: increased ease of use, a lower cost of installation, better environmental controls, better inventory management and tracking and a lower cost of ownership with the iSite system.

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About Echo Visualization

Echo Visualization, LLC, (EchoViz) is a boutique interaction design & user experience consultancy with a strong background in industrial design, user-centered design, research,



and brand management. We provide a wide spectrum of services including business analysis, digital strategy, user research, information architecture, interactive media, graphic design, data visualization, early stage concepting, interactive prototyping, animation, software development, implementation and QA testing. Throughout our work, we use established design strategies and advanced visualization techniques to engage customers and build brands. We are big thinkers and talented designers who strive to make an emotional connection with users by eliciting desire and delight with the interfaces we design.

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