

A photograph of a laboratory setting, showing a blue analytical instrument with a screen and various tubes and components. The background is slightly blurred, showing other lab equipment and a red fire extinguisher.

A Leading Analyzer Company Integrates its Suite of Products

Through Mindteck's Controller and Post-Processing Suite to Measure Physical and Chemical Properties of Oil and Lubes

Deep domain expertise of Mindteck enabled an integrated software tool to be rapidly developed



Market Reality

Petroleum is the most important substance consumed in modern society. It provides not only fuel and energy for transportation but is also used in a variety of industries like plastics, paint, fertilizer, insecticide and medicine. The exact composition of petroleum varies widely from source to source; hence it becomes all the more important to precisely measure the physical and chemical characteristics of oil and lubes. A variety of analytical instruments and methods are available to precisely analyze these properties.



Business Challenge

Our client is one of the leading analytical instrument companies in the US, providing innovative products used for analysis of physical and chemical properties of petroleum samples. Mindteck has been one its trusted software development partners, collaborating on multiple projects and product releases over time.

Solution Components

Microsoft C# .Net,
MS SQLServer, ASP .Net,
TCP/IP, Serial Protocol,
CAN-BUS Protocol.



About Mindteck

Mindteck provides Product Engineering and IT services to top-tier Fortune 1000 companies, start-ups, leading universities, and government entities around the globe. The company, established in 1991, is devoted to delivering knowledge that matters to help clients compete, innovate and propel forward. It is among a select group of global companies appraised at Maturity Level 5, Version 1.3 of the CMMI Institute's Capability Maturity Model Integration (CMMI).

For more information, please write to us at info@mindteck.com



Scope

The company was in the process of consolidating and enhancing their portfolio of analytical instruments based on organizational and market needs. It was also providing ongoing support to existing products currently in use. This required product re-engineering, enhancement and continuous software development, as well as the implementation of new technologies. The company required solutions to address issues of obsolescence, as well as to ensure that new upgraded Client-Server based PC applications were implemented. There were also parallel development of hardware/firmware and software which required coordinated management of project teams based in-house at the company as well as offsite at Mindteck.



The Mindteck Solution

We developed the control software for more than 15 Analyzer Instruments of the company. The control software configures, stores, and processes samples in sequence, online monitoring and stores sample processing results in a database for post-processing and reporting, instrument and method calibrations and instrument diagnostics. To incorporate reusability and scalability, we developed common components for instrument communication and customized UI controls.



Benefits

- ➔ Bringing diverse Instrument Control Software under one uniform Software Suite
- ➔ Development of multiple Analytical Instrument Control Software
- ➔ Deploying reusable components to lower costs
- ➔ Re-engineering and enhancing legacy Analytical Instrument Control Software and combat obsolescence
- ➔ Successful rollout of new instrument in the market
- ➔ 21 CFR Part 11 enablement
- ➔ Perform offshore independent IV&V of new Instrument Firmware & Software in Mindteck Analytical Lab
- ➔ Development of multiple Instrument Simulators to speed up distributed development and testing and even use it for demoing software to end users by marketing team
- ➔ Onsite training of new Software Suite to important client stakeholders after successful rollout

