



QUALITRAX™ CAN ANSWER MANY FREQUENT QUESTIONS RELATED TO FUEL QUALITY SUCH AS:



Fingerprint Matching

- Consistent from point to point in the supply chain?
- Consistent to another predicted product with a known fingerprint?



Material Identification

- Product grade or type?
- Compositional analysis i.e. Ethanol, FAME, Sulphur content?



Adulteration

- Is the fuel adulterated?
- What adulterant was used to dilute this fuel?
- How much adulterant has been used to dilute this fuel?



Property Prediction

- What is the octane rating of this fuel?

The QualiTrax™ Advantage over traditional fuel quality testing:

- Faster
- More affordable
- More efficient
- Rapid deployment
- Integrates with AXIS® for actionable intelligence

ABOUT AUTHENTIX

As the authority in authentication solutions, Authentix thrives in supply chain complexity. Authentix provides advanced authentication solutions for governments, central banks and commercial companies, ensuring local economies grow, banknote security remains intact and commercial products have robust market opportunities. The Authentix partnership approach and proven sector expertise inspires proactive innovation, helping customers mitigate risks to promote revenue growth and gain competitive advantage. Headquartered in Addison, Texas USA, Authentix, Inc. has offices in North America, Europe, Middle East, and Africa serving clients worldwide.

We help you thrive in complex supply and distribution chains.

CORPORATE HEADQUARTERS
4355 Excel Parkway, Suite 100
Addison, TX 75001

info@authentix.com

NORTH AMERICA | EUROPE | MIDDLE EAST | AFRICA
© 2026 Authentix, Inc.



QualiTrax™
Fuel Quality Monitoring

Authentix
The Authority in Authentication



NATIONAL FUEL SUPPLY CHAIN INTEGRITY AT RISK

There are many risk factors that can affect the quality of fuel as it moves through the supply chain. Whether intentional or accidental, poor quality or adulterated fuel can have severe adverse impacts on revenue, regulatory compliance, the environment, and consumer trust.

Because the fuel supply chain is so complex, it is difficult to identify fuel quality and authenticity problems in order to isolate and reduce the levels of substandard fuels, creating an increasing need to frequently monitor the quality of domestic or imported fuel entering the market.

Traditional fuel quality monitoring methods entail the need to repeatedly collect fuel samples at various points in the supply chain and then transport the samples to certified laboratories for ASTM testing. This process is costly and laborious and often takes several days to confirm results.

A number of 'off the shelf' spectrometers offered on the market can provide an indication or idea of fuel quality but do not provide the needed accuracy or precision that can replace laboratory results. However, Authentix has developed methodology to utilize new technology which is extremely effective when combined with machine learning modeling and proprietary software to enable field testing with a portable device, eliminating the need for most lab-based testing requirements.

TRANSFORMING FUEL QUALITY

QualiTrax™ is an Authentix fuel quality monitoring available to any company or government that increases the speed of commerce and decision-making by reducing the time and cost of fuel quality testing and inspection, while enhancing the efficacy of results.

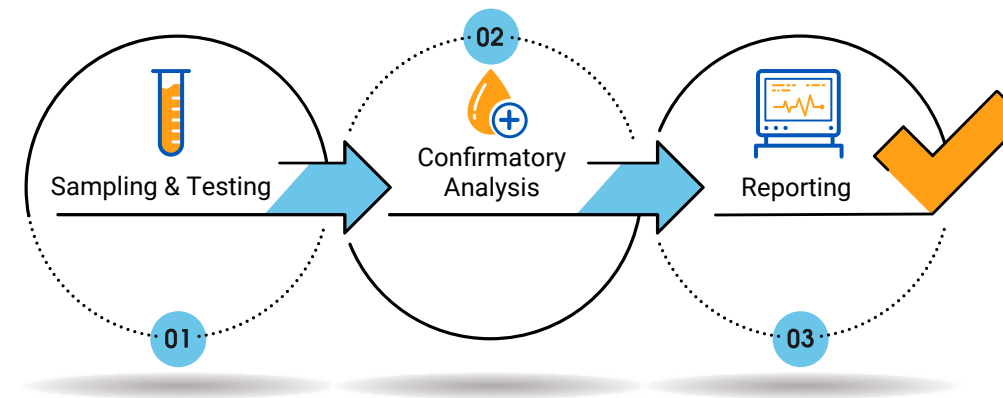
The QualiTrax™ solution uses mobile, field-based equipment and sophisticated chemometric machine learning to provide near instant quality testing and a more rapid, efficient and affordable alternative to traditional testing programs.

Authentix has long been a global leader in advanced portable spectroscopic analysis tools for many different fuel applications with over 25 years of successfully deploying and continuously supporting programs that utilize chemometric modeling. We provide unrivalled service excellence for customers to maximize their return on investment, capture actionable intelligence, while remaining agile to respond to changing market demands by creating and deploying new technology and services.

We use a unique approach to quality testing based on a library of historical sampling to form base libraries of quality measurements for almost any region and fuel supply chain. Because of the richness of the large compositional data obtained through historic sampling, our database of fuel composition libraries measure consistency of the make-up between various grades of samples and will determine the proper fuel quality parameters.

QUALITRAX™ WORKFLOW

The QualiTrax™ solution allows for comprehensive, end-to-end fuel quality control throughout the supply chain through deployment of the following process.

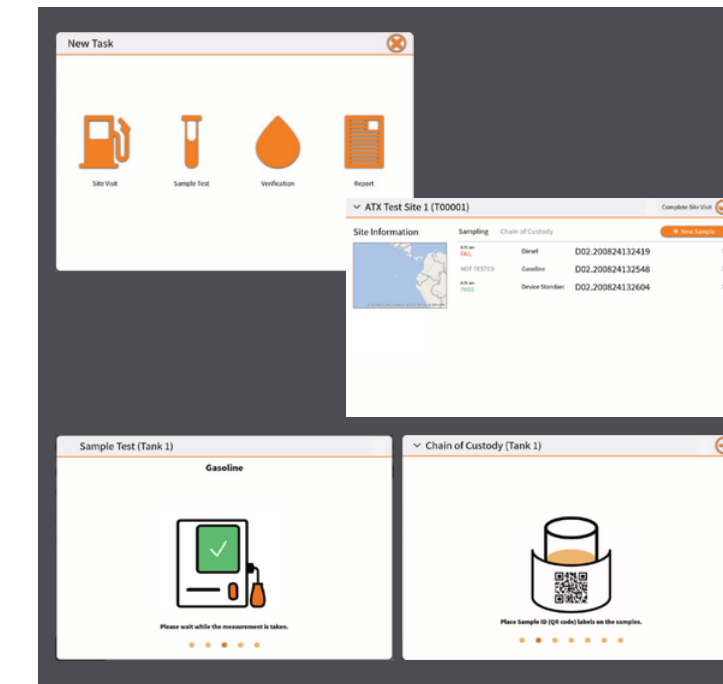


SAMPLING & TESTING

Fuel samples can be taken from virtually any field location including import vessels, refineries, barges, terminals, depots and retail sites and then tested using the portable Authentix Fuel Analyzer LQX 1000.

We can also set custom standards for detection and determination if a sample requires follow-up testing, which can include formal ASTM confirmatory testing in a laboratory. This process greatly reduces the number of samples needing laboratory testing.

Trained sampling teams utilize the Authentix Field Sample Manager, a mobile forms and data collection software, to capture supplementary information such as sample ID, fuel type and price, station name, brand owner, GPS location and time and date of sampling event.



Authentix Field Sample Manager application encrypts and securely transmits all data to AXIS®.

REPORTING

The data and results obtained from testing and analysis using the Field Sample Manager are then integrated into our cloud-based information system AXIS® with near real time updates to maintain and manage without delay. Our ability to capture variable data points from multiple sources enables a holistic, single window for complete supply chain visibility and actionable insights.

ANALYSIS

The LQX1000 is our state of the art screening tool used to identify whether fuel is in or out of specification requirements, limiting the need for additional ASTM laboratory analysis. If a sample passes (determined to be in specification), the test is recorded as normal and no further action is taken. Those samples identified as out of specification, are transported to a centralized laboratory for further ASTM tests. Additionally, the LQX 1000 includes the capability to run specific tests that meet ASTM standards for certain parameters – providing confirmatory results right in the field.



AXIS® configurable reports and dashboards enable program review, revision and optimization.