



Our client is a Gulf Coast petroleum refiner and chemicals manufacturer with a strong presence in North American petroleum markets. They were seeking a non-capital margin improvement project to improve margins and sustainably reduce product quality giveaway. Over 30 weeks, Trindent implemented 12 changes that reduced gasoline quality giveaway by 45%, improving margins by \$40,500,000.

57%

**REDUCTION IN VOLATILITY
GIVEAWAY**

\$40,500,000

**ANNUALIZED
SAVINGS**

29%

**REDUCTION IN
OCTANE GIVEAWAY**

How we Made it Happen™

Planning and Scheduling Optimization

- Implemented a standardized blending optimization program resulting in minimizing blend cost and improving gasoline quality giveaway performance by 57% for volatility and octane.
- Implemented a continuous planning buffer evaluation process using site-specific blend control variability with visualized historical performance charts for sustainability of program.
- Installed grades-specific octane and volatility blend laws, improving blended property prediction accuracy and decreasing recipe variance by 27%.
- Installed ASTM D6708 compliant back-casting and bias management tools to continuously validate blend law prediction accuracy improving RVP prediction variance to actuals by 0.17 psi.
- Installed ASTM D6122 compliant TVL chemometric prediction models for FTIR analyzers, reducing T50 and TVL giveaway by 63%.
- Implemented a Management KPI Scorecard increasing leadership's visibility into blend performance and program sustainability.

Execution Excellence

- Implemented a standardized blend execution process while enhancing program sustainment with lookback analysis historizing key Operator actions mid-blend.

- Developed and implemented product quality giveaway training modules and quarterly training tailored to each functional group to improve overall organizational competency in blending optimization program.
- Established a weekly cross-functional Blend Review Meeting with a root cause analysis framework to comprehensively identify and historize causes of quality giveaway and develop a proactive approach to resolve underlying issues.

Measurement Accuracy

- Installed alternative octane certification process leveraging prediction models developed with pre and post ethanol octane measurements from ASTM D2699 and D2700, contributing to quality giveaway reduction by minimizing uncertainty from ethanol hand blend.
- Installed ASTM D6122 compliant chemometric FTIR model validation tool improving on final batch prediction accuracy from optimizer compared to certification results by 23%.
- Improved measurement accuracy for ethanol content in gasoline batch by implementing monitoring process using Proficiency Testing or Round-Robin Program data to reduce post-ethanol octane measurement variability.
- Improved site precisions of Primary Test Methods by implementing ASTM compliant sampling practice, TPI (Test Performance Index) monitoring process, and continuous measurement improvement plans.

"Working with Trindent has been a truly collaborative experience, bringing our team closer together and fostering cross-functional communication and cooperation to implement and sustain meaningful change. Your commitment to sustainability, process discipline, and practical results has positioned us well for long-term success and is a key differentiator of your firm."

- Vice President Manufacturing Optimization