



Downstream Overview

Who We Are

Trident Consulting is a global technical augmentation company with a passion for solving complex problems in the downstream sector.

We have helped over 100 clients worldwide achieve financial benefits that yield between 500-1500% ROI within the first year – and we've done that without capital investments or software changes of any kind.

With deep industry knowledge in the downstream sector, our team of experts assess and implement best-in-class processes to widen your margins, minimize quality giveaway, improve measurement practices, and improve performance in every aspect of the hydrocarbon value chain.

Clients can confidently rely on us because we deliver sustainable results, build lasting relationships, and earn the reputation of a valued partner and trusted advisor. Industry leaders trust our judgment, respect our honesty, and value our expertise.

At Trident Consulting, we *Make it Happen*™

500% – 1500%
Return on Investment

We deliver a real and sustainable return on our services

100+
Clients Worldwide

We have a 97% client referral rate and the trust of industry leaders

35+
Countries Served

We serve clients globally across different cultures and languages

What We Deliver in Downstream

We partner with the world's leading energy companies to provide the right solutions to the complex problems that matter most.

We provide innovative and collaborative approaches to:



Quality Giveaway
Minimization



Hydrocarbon Loss Control and
Measurement Assurance



Energy Intensity
Enhancement



Supply Chain and
Planning Optimization

The Trindent Approach

Our Improvement Approach has three distinct phases of interaction: Assessment, Engagement, and Audit. During the Assessment, we collaboratively set profit improvement targets. The typical break-even point occurs just 12 weeks from the project's outset, giving you a swift and tangible impact.

Assessment

- We focus on analyzing internal processes and all aspects of hydrocarbon value chain management capabilities.
- Our team works with you to understand the barriers to greater profitability, and develop a positive working relationship.
- We then observe day-to-day activities, focusing on identifying sources of value leakage and determining gaps in hydrocarbon management operating system information.
- We wrap up the Assessment by quantifying and prioritizing financial improvement opportunities with charters to address the gaps.

Engagement

- We design and implement solutions to effectively reduce hydrocarbon losses, reduce giveaway, improve planning, reduce energy intensity, as well as capture margin and market opportunities.
- Next, we install process changes with management operating systems that provide insight into performance, while working as technical experts, side-by-side with your team.
- Our changes improve data accuracy and availability, while reducing latency to build last-mile reporting tools using existing technology.
- We conclude the Engagement by performing management and field training to transfer knowledge and ensure organizational goal alignment, including complementary KPIs.

Audit

- A sustainability audit is performed six months following the Engagement. Audits can continue for a period of two years, ensuring savings are fully sustainable.
- Repeated audits are opportunities for further improvement ideas as the market shifts and changes.
- Audits also provide a chance for new leaders and managers to get familiarized with the program to withstand key employee turnover.



Downstream Services

We Implement Sustainable Processes and Systems To Increase Refinery Margins By 2-3% Without Capital Investments

We specialize in achieving tens of millions of dollars in performance improvements within 6 to 8 months. Using data analytics, industry know-how, and technical experience; we have implemented improvement engagements in over 40 refineries globally.

Quality Giveaway Reduction

- Improve effectiveness of blend planning and scheduling tools to optimize recipes and eliminate buffers
- Enhance accuracy of neat and post-ethanol blend models with a prediction backcasting tool and real-time application that integrates unit rundown results
- Achieve consistent blend execution and empower operators to adjust recipes when appropriate with adequate coaching, knowledge, and toolkits
- Achieve data quality that is timely, repeatable, and accurate for reliable prediction and control of gasoline blending
- Implement analyzer modeling best practices such as spectra preprocessing, trimming, offset correction, and spectrum normalization
- Install a site-specific blending guideline to sustain and improve the new gasoline optimization program

Hydrocarbon Loss Control and Measurement Assurance

- Increase accuracy of volume expansion and mass balance reporting by enhancing measurement practices, mass balance calculations, and reconciliation processes
- Improve unit-level mass balance to support refinery optimization
- Achieve consistent sediment and water analysis to eliminate losses on crude receipts
- Recover hydrocarbon volume loss through enhanced meter measurement oversight practices and control charts, as well as third party measurements for tank and vessel gauging
- Implement automated data collection, consolidation, and database management process leveraging artificial intelligence, resulting in robust data analysis and minimal manual entries

Energy Intensity Enhancement

- Identify inefficiencies and quantify improvement opportunities in steam management
- Reduce excess electricity and natural gas consumption
- Enhance the exchanger cleaning program with a monitoring system and appropriate planning guidelines to optimize the preheat training cleaning process
- Investigate fuel sources and evaluate the benefits of purchasing versus producing energy streams
- Leverage process engineering and control to implement sustainable practices
- Use appropriate automation and dashboard design to enhance organizational behavior and continuous improvement
- Survey site-wide hydrogen consumption and implement processes to optimize H₂ management from internal and external sources

Supply Chain and Planning Optimization

- Enhance Linear Programming (LP) outputs customized to refining operations such as feedstock selection, product mix optimization, and operational constraints
- Assess existing LP models to identify areas of improvement, such as model accuracy and convergence speed
- Use unconstrained LP analyses to guide new business development directions
- Optimize resource allocation and strategic decision-making during the Long Range Planning process
- Utilize LP models to perform sensitivity analyses to guide operational direction in response to changes in market conditions and operational events
- Implement a Unit Mass Balance program to achieve unit-level mass balance within 2% by automating density reconciliation, improving preventive maintenance around measurement flowmeters, and install a continuous monitoring program

Case Studies

Gasoline Blending Optimization

A North American refining corporation engaged Trindent to optimize gasoline blending at one of the largest and most complex refineries in the world. We successfully achieved outstanding ROI through giveaway reduction as a result of improvements in the blending value chain and behavioral improvements at all levels of the client's personnel.

\$40,200,000

Annualized Savings

43%

Reduction in
Volatility Giveaway

55%

Reduction in Neat
Octane Giveaway

Hydrocarbon Loss Control

A diversified energy company with renewable fuels, petroleum refining, and marketing business throughout the South-Midwest USA engaged Trindent to create and develop an industry-leading hydrocarbon loss control program to reduce transfer losses. This significantly improved refinery mass balance as well as sediment and water variance.

\$12,400,000

Annualized Savings

62%

Reduction in
Refinery Mass
Balance Loss

55%

Decrease in
Sediment and
Water Variance

Value Chain and Planning Optimization

A Fortune 500 integrated global refinery engaged Trindent to improve profit margins by installing standardized short-term, mid-term, and long-term planning processes across all downstream assets. The engagement also established a mature unit mass balance program, to be used during the backcasting process to improve LP accuracy and planning effectiveness.

\$152,000,000

Annualized Savings

4.6%

Improvement
in Refining
Gross Margin

65%

Reduction in LP
Solve Time

Energy Intensity Enhancement

One of Canada's leading refineries, with already top-quartile Energy Intensity Index (EII) rankings, engaged Trindent to further enhance its energy efficiency. They aimed to achieve Energy Star certifications while simultaneously reducing their GHG emissions. Over the course of six months, we developed and implemented over 170 changes without a reliance on capital expenditures or software of any kind.

\$17,300,000

Annualized Savings

4.5%

Reduction in
Natural Gas
Consumption

3.7%

Reduction in
Electricity
Consumption

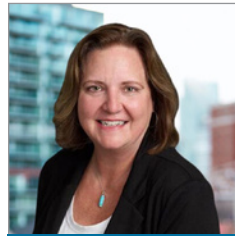
The Team

Our team members in the oil and gas sector are some of the most knowledgeable and accomplished industry experts.



Adrian Travis
President

With deep expertise in hydrocarbon loss control, refinery planning and economics, energy intensity optimization, and value chain improvement; Adrian has successfully delivered over 200 margin improvements globally resulting in over \$2,000,000,000 in delivered savings.



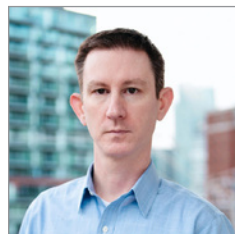
Cheryl McKinney
Executive Advisor

Cheryl has over 37 years of experience in the oil and gas industry, including executive-level roles with British Petroleum. Cheryl brings a wealth of experience and expertise in both traditional transportation fuels and infrastructure, as well as in emerging technologies such as biofuels and hydrogen.



Bob Baird
Executive Advisor

Bob brings a wealth of experience in all aspects of oil refining. Bob was appointed Senior Vice President, Downstream at Husky Energy after previously being Vice President, Downstream and Vice President, Upgrading and Refining for Canada at Husky Energy.



Steve Atkinson
VP, Business Analysis

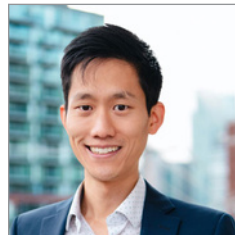
Having first joined Trindent in 2009, Steve is well versed in the Trindent methodology that allows us to quickly identify and understand the needs of our clients and to develop practical and effective solutions. Steve has delivered over \$1,000,000,000 in financial improvements.



Roy Smith
VP, Business Development

Roy is a seasoned executive with over 30 years experience in the oil and gas industry, specializing in optimizing production and refining processes for clients across Europe.

Roy combines technical expertise with a deep understanding of market dynamics to develop innovative solutions to support individual client challenges.



Kevin Kim
Associate Principal

With a background in chemical engineering and expertise in management consulting, Kevin has 10 years of experience delivering successful and profitable improvement implementations. Kevin has delivered over \$150,000,000 in annualized savings for the oil and gas sector.



Kai Y. Wan
Associate Principal

As an Associate Principal at Trindent, Kai has collaborated closely with multiple business partners in the energy sector across North America and the Asia-Pacific region, including some of the world's largest refineries. Kai has delivered over \$100,000,000 in financial improvements.



Ann Lebeau
Engagement Manager

Ann is a highly accomplished management consultant with over 30 years of experience in the oil and gas sector. Prior to Trindent, Ann held various senior management roles at BP and Amoco. Ann has delivered over \$300,000,000 in profit improvements for some of North America's leading energy companies.

Our Clients

We have worked with some of the largest oil and gas companies worldwide.



“I found your firm’s approach to optimizing our operations to be refreshing and extremely powerful in how it generates bottom-line results. The operations team now has new tools and reports to view productivity, cost, speed, service, and quality in real time and the speed at which these tools were developed and rolled out was impressive.”

A Fortune 500 Energy Company

Our Awards

At Trindent, each year of growth has been a testament to our commitment to delivering exceptional results. Our team of consultants comprises the most trusted subject matter experts in the industry. These recognitions are a reflection of our relentless pursuit of excellence and our unwavering dedication to exceeding client expectations.





Toronto

155 George Street
Toronto, Ontario
Canada
M5A 2M8

T: 416.839.7000
F: 416.583.2521
toronto@trindent.com

Atlanta

303 Perimeter Center North
Suite 300
Atlanta, Georgia
30346
United States of America

T: 470.690.5306
atlanta@trindent.com

Frankfurt

9th floor, Messeturm
Friedrich-Ebert- Anlage 49
Frankfurt
60308
Germany

T: 49 69 50956 5425
frankfurt@trindent.com

www.trindent.com

