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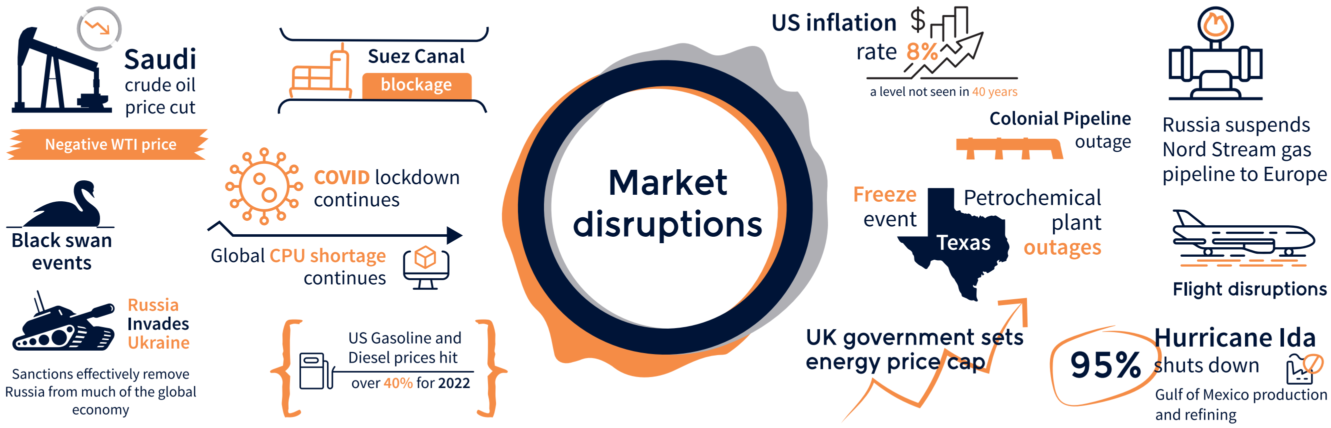
Five reasons commodity businesses lose money and strategies to stay profitable in 2023

The pains commodity businesses face

Every step holds a potential landmine

Disruptions occur with increasing frequency in today's commodity markets such that multiple "once-in-a-lifetime" events in a single year are now commonplace. So much happened between 2020 and 2022 alone:



For commodity businesses, the margin for error is small. A blip in the system doesn't have minor repercussions — just one mix-up could cost millions. Losses can worsen as the domino effect of each affected business process unravels an operation. Every step has the potential for incremental loss or profit. Forward-looking commodity organizations must carefully evaluate every phase of their business processes and identify where challenges exist in advance.

For decades, ION Commodities has watched commodity businesses. We've observed the key areas where forward-looking organizations prosper — and the pitfalls that underprepared businesses experience.

Today's geopolitical uncertainty, shifting energy sources, ever-changing regulations, volatile supply chains, and rapidly evolving technologies have increased commodity business complexities and the amount of data available. In this e-book, we explain how leading commodity organizations seek out advanced technological advantages to address these five challenges to mitigate their losses and drive greater profit.

Challenges such as incomplete pre-trade analysis, improvised trade hedging and risk analysis, complex and changing supply chains, lagging regulatory compliance, and disjointed controls and oversight can impact commodities businesses financially.

Conversely ION's next-generation commodity management software solutions and advanced analytics provide:

- A complete picture for pre-trade analysis.
- Total control in trade hedging and risk analysis.
- Optimization throughout the supply chain.
- Regulatory compliance powered by next-generation technology.
- Controls and oversight transparency in a single solution.

Common commodity management pain points

Five major reasons why commodity businesses lose money

1. Incomplete pre-trade analysis »
2. Improvised trade hedging and risk analysis »
3. Complex and changing supply chains »
4. Lagging regulatory compliance »
5. Disjointed controls and oversight »

Common commodity management pain points

Front, middle, and back offices must closely analyze the potential for losses daily. Commodity management professionals must quickly, and with 100 percent certainty, know the status of various exposures, demands, supplies, regulations, capacities, and much more.

Below are examples of common questions that address commodity pain points and potential losses. Which of these questions resonate in your day-to-day business activities?

Front office

- Where am I long and where am I short?
- Do my commodities meet contract specifications?
- Do I have enough supply to meet my demand?
- Do I have enough transportation capacity to meet my requirements?
- What are my market exposures?

Middle office

- Have I properly hedged my exposures?
- What are my counterparty exposures?
- What is my realized P&L?
- What is my unrealized P&L?
- Why is my P&L changing and what impacted it?
- Do I have proper internal controls to limit risk?
- Are the markets liquid enough to supply my needs?
- Are my solutions allowing proper decision support?
- If there's a major market move, can I withstand the impact?
- Are my data sets complete to run end of day?

Back office

- Am I in compliance with hedge accounting rules?
- Am I in compliance with derivative regulation?
- Do I have enough liquidity to meet my cash demands?
- Can I generate accurate invoices on demand?
- Are my payables up to date?
- Can I generate accurate accruals to complete end of month?
- What open receivables do I have?
- What are my expected cash flows?
- What contracts are up for renewal?
- Have I received or generated all confirmations?

Five major reasons why commodity businesses lose money

Explore five major reasons why commodity businesses lose money in 2023, followed by strategies and tools to optimize trading, risk mitigation, operational efficiency, and enable business growth.

Reason No. 1

Incomplete pre-trade analysis

Data overload

"I've never been in analysis. But it's rare that one saves oneself from a rickety landing at the top of a building by throwing oneself down the stairwell."- Elena Ferrante, La frantumaglia

Pre-trade analysis in today's landscape can be overwhelming. Traders and risk managers are flooded with so much volatility, data, and choices. Managing everything to prepare a trade quickly and smartly using spreadsheets is now unreasonable. With the world moving so rapidly, predicting the future volatility of price while forecasting volumes through manual means is inevitably subject to human error.

Without a central repository for all historical trades, companies can have hundreds or even thousands of spreadsheets circulating at any given time. Often, multiple versions of spreadsheets are used by different traders, managers, and executives, because individuals like to see trade data differently. Front, middle, and back offices cannot collaborate effectively when significant patterns, trends, and valuations are hidden in heaps of disparate data and spreadsheets. Without certainty that every trader, analyst, and risk manager is working with the most up-to-date, accurate data, pre-trade analysis is unwieldy and difficult.

When predictions don't go as planned, huge losses can occur within minutes. Especially in the face of unforeseen events, such as large price swings, supply chain mix-ups, and technological disruptions. In uncertain times, commodity traders require agile tools and strategies to react intelligently when post-trade execution goes wrong.

Pre-trade analysis strategies and tools

The importance of a complete picture

The ideal pre-trade analysis allows for complex physical and financial transaction structures to be evaluated across multiple scenarios for supply/demand balance, net return, and risk metrics. Generating physical and financial transaction strategies in real time provides decision support in these dimensions. Thorough analysis and robust insights, powered by advanced analytics, yields a complete picture of a portfolio's position and its forecasts, equipping users to prepare for opportunities.

With advanced analytics, human error is no longer an issue. Risk managers can perform scenarios on specific trades to define universes and forecast available liquidity, spread cost, and market impact — instantly. This ensures maximum profitability for risk managers and their teams.

1. Pre-trade analysis with advanced analytics

Advanced commodity analytics makes fundamental analysis more effective and easier. Here are a few examples of how business processes are upgraded with advanced analytics:

Market coverage: Predictive analysis with market inputs allows analysis of multiple trades at once. This gives organizations precise indicators with optimization studies and predictive analytics that forecast unknowns more quickly and accurately.

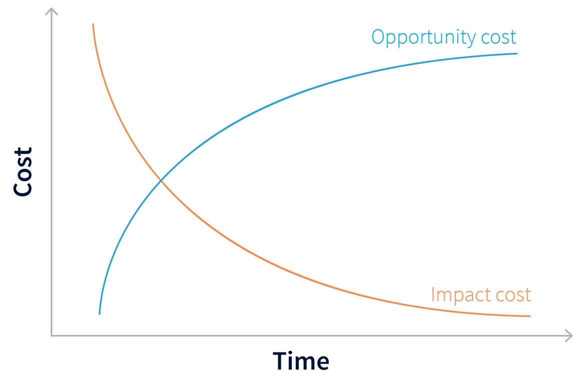
Timing of trades: Pre-trade analytics allow a user to compare costs for different execution times over a given day.

Sizing of trades: With advanced analytics, users can conduct pre-trade analysis on costs by size. They can also locate information on prior executions of similar sizes to see what did or did not work well at different times of the day. And users can conduct scenario analysis to see how costs fluctuate by size.

Defining duration: A common decision in the pre-trade process is a trade's duration. A complete view of your position gives insight into whether you are trading too quickly and minimizing the opportunity cost. Equally, you can see if you're trading too slowly and minimizing market impact. The figure illustrates these conflicting forces.

The intersection of opportunity and impact cost

When conducting pre-trade analysis, the ultimate goal is to trade at a duration where opportunity and impact cost meet.



2. The results

With the analysis done, and the trade executed, the next step is to save the analysis of the specific trade. For post-trade analysis, it's vital to tag trades with the associated pre-trade analysis. That way, past decisions can be assessed and adjusted for future trades. With advanced analytics, traders can compare historical runs with futures and share them with their teams.

Pre-trade analysis is a core component of success. Advanced analytics makes pre-trade analysis doable, providing the tools needed to assemble a complete picture efficiently and at scale.

Reason No. 2

Improvised trade hedging and risk analysis

When the market doesn't meet expectations

"Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted."
– Albert Einstein

Now that you're in a trade, how will you react if the market goes against you?

Risk managers and traders must contend with more volatility than ever. The speed at which commodity businesses are bombarded with data is unprecedented. Global trade tensions lead to greater geopolitical risk, and levels of counterparty credit risk rise with the growing number of potential counterparties. If a decision goes awry, are backup plans B, C, D, and E in place?

When it comes to commodity risk, there are four major types:

Market (price) risk
An adverse movement in the market price of a commodity.

Counterparty credit risk
The likelihood a counterparty might default on its contractual obligations.

Operational risk
Changes in the availability of commodities due to adverse movements within internal procedures (that is, people and systems) or external forces (that is, economic events).

Regulatory risk
Compliance or regulation has an adverse impact on the price or supply of commodities.

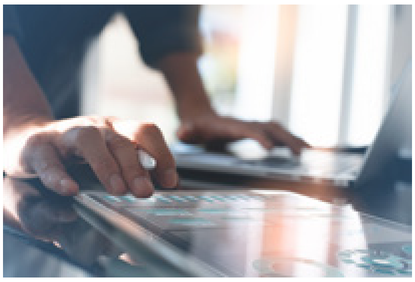
Not insuring against the multiple types of risk is a certain way to lose. When things don't go your way, decisions to double-down, let it ride, or get out of a trade cannot be based solely on intuition. They must be backed by quantifiable information that is tested for accuracy.

Trade hedging and risk analysis strategies and tools

How to take a control

With the right strategies and tools in place, risk managers have greater control over volatile trade hedging and risk analysis processes.

For example, prices, volatilities, correlations, and forward curves can be managed in multiple simulation scenarios with validation and calibration assessments. Market data can be calibrated and correlated against industry-specific operational metrics with machine learning techniques, including vector machines, market basket analysis, and Naive Bayes algorithms.



All of this is possible with advanced analytics:

1. VaR calculations with advanced analytics

Value-at-Risk (VaR) answers the question, "What is my worst-case scenario?". Or "How much could I lose on a really bad day?"

VaR calculations with advanced analytics allow traders to mitigate a broader spectrum of risk, leading to a greater likelihood of profitable trades. Active risk mitigation for linear and non-linear instruments can all be simulated through strategies such as Monte Carlo, Parametric VaR, and Historical Simulation VaR losses.

2. Option valuations with advanced analytics

Advanced analytics make basic commodity option valuation, exotic financial option valuation, and embedded physical option disaggregation and valuation radically more efficient. Optionality is embedded in physical transactions and logistics are modeled as exotic options, with highly specialized models for each type of optionality. In addition, prescriptive analytics is applied to non-linear positions to forecast changes in option valuation.

3. Minimizing exposure with advanced analytics

Liquidity and counterparty exposure are the two major risks faced when minimizing exposure. Calculating these can be an impossible task when reliant on guessing and manual analysis.

- Liquidity exposure: Using advanced analytics, organizations can plan and allow for optimal capital deployment. They can also manage cash flow, which reduces the cost of capital.
- Counterparty exposure: Organizations can utilize advanced analytics to reduce expected losses due to counterparty default.

4. The results

Advanced analytics helps determine VaR, option valuations, and exposure in the market. It also speedily identifies Earnings at Risk (EaR), Cash Flow at Risk (CFaR), Potential Future Exposure (PFE), and credit. Market, option, and credit risks are evaluated against incremental PFE, VaR, CFaR, and EaR metrics, with changes in risk metrics attributed to transaction and market changes.

Successful trade hedging and risk analysis need a trusted support system with accurate trade structures that are based on objectives and key results of profitability, return, and risk.

Reason No. 3

Complex and changing supply chains

Every commodity presents new challenges

“Let our advance worrying become advance thinking and planning.” – Winston Churchill

The movement of commodities from production source to consumer — the supply chain — is a process that, regardless of the commodity type, is almost always fraught with considerable risks, including operational, price, and regulatory risks. Natural disasters, economic flux, and rising tariffs are a constant concern for the supply chain industry, causing commodity businesses to reconsider manufacturing strategies and global operations. Here are some of the challenges facing commodities-intensive firms:

Logistics challenges (including transportation and shipping)

Logistics solutions must be tailored to each commodity and customer. Full transparency of orders, visibility from the raw material stage to final goods sale, and inventory optimization have become standard requirements for commodity groups. Pricing pressures and forecasting difficulties due to global economic changes have also become major obstacles.

Also, with roughly 90% of the world's traded goods transported by sea, involving ship owners, operators, and charterers, controlling the cost and risk of transporting commodities is critical. Freight rate volatility affects all key areas of enterprise risk: market, operational, counterparty credit, and regulatory. Despite the importance of freight shipping, industry surveys show that many companies still try to manage chartering and vessel operations with spreadsheets — creating information silos and a greater risk of error.

Oil and gas logistics: a lack of visibility

Take, for example, oil and gas logistics. Logistical support to these industries is challenging. Oil and gas companies operate in some of the most physically and politically challenging environments. Oversized, heavy loads often have to be delivered quickly, mainly to remote areas, and the financial impact of downtime is extremely high. Costs continue to increase, as oil and gas companies relocate operations to harder-to-reach parts of the world, such as ultra-deep oceans. Even in established markets, most oil fields are in areas with inadequate infrastructure. Accessibility to rigs is a challenge and this industry cannot simply transport goods along highways.

Add in factors such as volatile market prices, fluctuating demand, complex compliance and regulations, and projects that involve multiple third-party suppliers, and it's clear that the operations of oil and gas companies are complex.

To manage risks, control costs, and successfully facilitate asset trades and logistics, oil and gas companies need increased visibility into their operations. It's crucial to have an integrated software platform that enhances reservoir recoverability and optimizes production, by easily accessing and managing key asset-related data to improve decision-making across the entire enterprise from field to refinery.

Natural gas storage: highly detailed planning

Commodity storage plays a crucial role in the natural gas supply, transportation, and consumption chains — ultimately impacting the balance of supply and demand. When unexpected events disrupt supply, a sufficient storage level will reduce the financial and physical impacts on downstream operators.

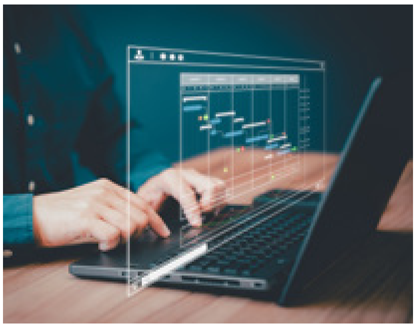
The process of natural gas storage is complex and requires dedicated maintenance. Key risk mitigation measurements for storage forecasts include demand patterns for peak usage, geographic limitations, seasonal volatility, and peak shaving. A portfolio view on how to optimize storage mechanisms, from commercial contracts to reservoir injection, requires complex forecasting models. The reservoir's physical location to support natural gas storage must be researched thoroughly. A strategic location will minimize transportation costs, the number of regulations, and maximize the ability to respond quickly to changing demand.

Massive amounts of data and multiple data sources found in commodity storage must be streamlined and optimized. Advanced analytics give today's natural gas businesses new insights, leading to creative business decisions and ultimately, a competitive advantage.

Supply chain strategies and tools

Traditional methods won't cut it

Supply chain requires massive coordination and data sharing across organizations, making it a difficult and often flawed process. However, things are changing.



Innovators are moving away from a transactional procurement approach to one that integrates advanced analytics. This is preventing huge losses, typically saving around 20% in material costs.

The secret to supply chain success is aligning data across functions, identifying simplifications in supply logistics, and broadening time and geographic demand forecasts. Advanced commodity analytics enables these capabilities, resulting in the dynamic management and hedging of procurement assets.

The best solutions for optimizing commodity logistics (including transportation and shipping)

Schedulers using spreadsheets and outdated systems to schedule modes, movements, and shipments are unable to account for a series of different factors that may occur in any given shipment.

With advanced analytics, schedulers can optimize logistics through mode optimization, which ensures the optimal shipments and modes for a transaction in real time. Schedulers can also perform movement optimization, which ensures the most profitable movements in a transaction.

A vessel operations and freight risk management solution can calculate transportation costs, which can be allocated to cargoes, sent back to a commodity trading and risk management (CTRM) system, and then allocated to the trade level. Supply chain planning solutions quickly generate product and transport schedules, and a supply chain planning platform custom-made for commodity industries.

The best solutions for optimizing commodity storage, refining, and processing

Utilizing traditional methods to value, manage, and hedge storage assets entails loads of guesswork on storage asset values and an increased likelihood of miscommunication across organizations.

With advanced analytics, schedulers optimize decision support and valuation for storage facilities to value, manage, and hedge storage assets dynamically. They can also optimize mark-to-market and quantify expected future profitability in multiple markets, and assess the probability and nature of extreme storage scenarios. And they can maximize storage value by deriving the optimal forward hedge positions, and support decisions for daily injection/withdrawal and adjusting forward hedges.

Vessel operations and freight risk management analyze cargoes, vessels, load, and discharge, while optimizing dry cargo, gas, tanker, and parcel operations. The optimization and simulation technology in supply chain planning solutions allows users to set, monitor, and control inventory levels. Early warnings are automatically sent to alert users of pending late shipments and stockouts.

Reason No. 4

Lagging regulatory compliance

Non-compliance leads to severe losses

“If you think compliance is expensive — try non-compliance.”
- Former US Deputy Attorney General Paul McNutty

In Europe alone, privacy regulators in 2021 imposed known fines totaling more than 1 billion euros ($1.2 billion) under the EU's General Data Protection Regulation, bolstered in part by two record-breaking sanctions, according to the law firm DLA Piper. Recent research indicates that regulatory compliance has become more costly than ever for organizations compared to the annual cost of non-compliance averaging $14.8 million in 2017. The costs to a business of regulatory compliance are far less than the consequences of non-compliance, which can include major disruptions, productivity losses, fines, penalties, and settlement costs.

Organizations that do not meet compliance obligations face major reputational risk. Public fines send a negative message to the market and your counterparties about the maturity of your operational processes. The potential for additional funding and new partnerships becomes a huge challenge. A positive reputation is invaluable and extremely difficult to recoup after just one instance of noncompliance.

The regulatory compliance requirements and reporting rules of Dodd-Frank, the US Commodity Futures Trading Commission (CFTC), European Market Infrastructure Regulation (EMIR), the Canadian Securities Administration (CSA), and Regulation on Energy Market Integrity and Transparency (REMIT) have impacted financial and physical trading. Affected areas include the way enterprises report, clear, track, and manage derivatives.

After more than a decade of these changes, firms have definitely become more diligent and sophisticated in their compliance and risk management. But, despite the progress, there is also a growing sense of regulatory fatigue. As the battle against financial crime continues to wage, transparency is an issue. These nagging problems continue to leave commodity organizations vulnerable to new risks in their regulatory compliance efforts.

Regulatory compliance strategies and tools

The power of a CTRM solution

To meet today's increasingly stringent hedge and regulatory reporting requirements, companies need accurate, timely documentation of all activities. Generating reports from spreadsheets can be difficult and error-prone, and this gives limited visibility into your portfolio and the associated potential risk. Companies need to deliver timely reports across all operating regions, with a real-time view of their assets. When transactions don't reflect accurate values, companies face losses, reduced profits, and challenges in dealing with regulatory bodies.

Regulatory compliance for trading

CTRM alleviates common challenges associated with intensive compliance by unifying data streams and business processes. The key benefits of a CTRM include:

- Effectively transforming trade data into regulatory protocols and formats, and efficient reporting of transactions to US, European, and Canadian trade repositories and central clearing parties.
- Tracking the complete compliance business process, including reporting status with a comprehensive audit trail.
- Managing all regulatory reference data and trade information, and monitoring of position limits and available credit.
- Enabling timely and accurate transmission of transactions.
- Reporting new trades and modifications to existing trades.
- Quickly identifying trade status with trade assignments built into regulatory workflow.

Regulatory compliance for accounting and compliance professionals

Compliance can be expensive and time-consuming, but CTRM identifies processes to improve and automate workflows. Benefits of the platform include:

- Support for reporting requirements such as the Financial Accounting Standards Board's Accounting Standards Codification, including ASC 820, International Financial Reporting Standards, and International Accounting Standards, including IAS 39.
- Advanced commodity analytics, designed to help your enterprise meet all regulatory mandates. This includes compliance with ASC 820, IFRS 9, and IAS 39. It reduces the time and cost of compliance through automated reporting and direct integration with the world's regulatory entities.

Reason No. 5

Disjointed controls and oversight

Decentralized data exposes risk

"A lack of transparency results in distrust and a deep sense of insecurity." – Dalai Lama

Strategies and tools for controls and oversights

Transparency through a single solution

Controls with a next-generation commodity trading and risk management solution

With a CTRM solution, risk managers can be confident they'll have the controls they need. The benefits include:

- A controls and risk management valuation engine, including integrated credit, market, and operations risk.
- Pre-trade limit verification for trader and credit limits.
- Risk measurement tools, including covariance and Monte Carlo simulations.
- Option and real option valuation and analysis.

Oversight with a CTRM solution

Complying with regulations around the globe becomes more efficient when a single source of information can be trusted. With a next-generation CTRM, audit and compliance professionals benefit from:

- Maximized human capital by allowing personnel to focus on creating value rather than manual tasks.
- Reduced risk of operational failure.
- The ability to manage and understand exposure.
- Reduced risk associated with unapproved transactions.
- Alleviation of penalties and fines for non-compliance.

Empowering corporate governance

These controls also empower corporate governance policies to be on a single, shared platform — enabling company-wide implementation. Enforcing policies through spreadsheets is inherently disjointed, making the flow of information through a company cumbersome and uncertain.

With policy enforcement safeguards, a company can protect its profitability and reputation. Maintaining company transparency, accountability, and security cannot be left to manual processes. It requires an interconnected platform that automatically integrates corporate governance measurements across departments, ensuring policies are clearly carried out and enforced through the front, middle, and back offices.

One solution for control

CTRM software and advanced analytics empower companies that extract, process, market, trade, or consume commodities to make informed decisions and take total control over how their businesses grow. Customers get data-driven decision support to manage position visibility, risk management, controls, and regulatory compliance better — on one platform.

Let's review:
Five reasons commodity businesses lose money

Ease commodity pain points with next-generation commodity management software solutions, advanced analytics, vessel operations, freight risk management, and supply chain planning solutions.

This e-book covered five major reasons why commodity businesses lose money:

1. Incomplete pre-trade analysis
2. Improvised trade hedging and risk analysis
3. Supply chain complexities
4. Lagging regulatory compliance
5. Disjointed controls and oversight

Here is how ION can help

With ION's next-generation commodity management software solutions and advanced analytics, organizations gain:

1. A complete picture for pre-trade analysis

Risk managers can perform scenarios on specific trades to define universes and forecast available liquidity, spread costs, and market impact — all in real time.

2. Total control in trade hedging and risk analysis

The right strategies and tools, prices, volatilities, correlations, and forward curves can be managed in multiple simulation scenarios, with validation and calibration assessments. Market data can be calibrated and correlated against industry operational metrics with machine learning techniques, including vector machines, market basket analysis, and Naive Bayes algorithms.

3. Optimization throughout the supply chain

Schedulers can optimize logistics through mode optimization, which ensures the optimal shipments and modes for a transaction in real time. Schedulers can also perform movement optimization, ensuring the most profitable movements in a transaction.

A vessel operations and freight risk management solution can calculate transportation costs which can be allocated to cargoes, sent back to a CTRM system, and then allocated down to the trade level.

The optimization and simulation technology in supply chain planning solutions quickly generates product and transport schedules, in addition to a comprehensive supply chain planning system of record designed for the commodity and process industries. It also allows users to set, monitor, and control inventory levels.

4. Regulatory compliance powered by next-generation technology

An enterprise can meet all its regulatory mandates, including compliance with ASC 820, IFRS9, and IAS 39. It does this by reducing the time and cost of compliance through its automated reporting, and direct integration with the world's regulatory entities.

5. Controls and oversight transparency in a single solution

With a next-generation CTRM, audit and compliance professionals gain controls and risk management valuation engines, including integrated credit, market, and operations risk, pre-trade limit verification for trader and credit limits, and much more.

ION Commodities

Join the world's largest community of energy and commodity professionals

Commodity markets are volatile, complex, and uncertain. ION Commodities offers the leading commodity management software portfolio, enabling total control.

We reinvent the way business is done through innovations in automation technology. Our software improves decision-making, increases efficiency, simplifies complex processes, and empowers people. Wherever you are, and whatever industry you're in, ION Commodities solutions put you in complete control – from procurement and trading through to risk management and delivery. That's why many of the world's biggest and best — known companies partner with ION to sharpen their decision-making and boost their productivity. No one understands commodities management like we do, and no one can meet your needs like we can.

As the market leader, ION Commodities provides holistic portfolio management and next-generation decision support to organizations of any size, in any industry, across any commodity, and in any region. From a completely packaged multi-tenant SaaS solution, a highly customized CTRM solution, or a platform for advanced analytics and digitalization, ION's portfolio of solutions supports your exact requirements now. And it will support you as your business grows and changes well into the future.

Discover what ION can do for you. Click on a button below to learn more

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