CASE STUDY

How Altana's AI Makes Trade Compliance Auditing & Investigation More Efficient

Case Study: Fortune 100 Express Carrier Applies Altana's AI to Detect HS Code Misclassification

Altana

Executive Summary

Trade compliance is evolving to become more granular and onerous on importing parties, while the risks and stakes of non-compliance rise. To communicate the materials and use of every product that crosses borders, *Harmonized System (HS) codes* must be correctly applied. However, classification is incredibly complex and time-consuming to get right with ever-changing rules. In fact, one study [1] found that one-third of shipments arriving at the Canadian border were misclassified.

HS code-related reasons are among the top reasons why shipments get stuck in legal limbo in customs. **Ensuring correct HS codes have been declared to the customs authority is a crucial piece of the puzzle to maintain compliance, help protect your supply chain from disruption, and maintain predictable costs.**

But how is it possible to know which cross-border transaction records are worth spending the human resources to audit or investigate for trade compliance? Enterprise trade compliance departments, consultants, customs brokers, and customs agencies all face this similar, perplexing problem. Until now, there was no way to know exactly which shipments contained specific watch-list products likely to have the incorrect HS code assigned, be misdeclared, misvalued, or have an incorrect country of origin.

Without more intelligent tools available, most trade compliance programs have addressed this problem by simply auditing a random sampling from batches of cross-border transactions.

Now, it's possible to use artificial intelligence (AI) to choose a better, less manual way to identify risk. Altana's Atlas platform allows you to strategically pinpoint the highest risk transactions from existing data in real-time to highlight the records that should be evaluated.

This true, risk-based approach saves time, human effort, and boosts compliance through smart monitoring and reporting. In this paper, we propose the use of AI to identify transactions that are most likely to be misclassified in order to maximize human resources and compliance.

1 Auditor General of Canada 2010, 'Report of the Auditor General of Canada – Fall 2010, Chapter 8, Facilitating the Flow of Imported Commercial Goods – Canada Border Services Agency', Office of the Auditor General of Canada, Ottawa.

What Are Compliance Audits & Investigations?

Trade compliance oversight obligations have become a shared pursuit between customs agencies and the trading community. In most countries, **the importing party carries the bulk of responsibility to exercise "reasonable care" over their cross-border transactions to ensure compliance with customs requirements.** Authorities also perform targeting and investigations for compliance, while also measuring the effectiveness of their own investigation and enforcement efforts.

Their oversight includes things like ensuring correct HS codes are declared, appropriate valuation and country of origin is used, among other information necessary to properly assess duties, taxes, collect statistics, and meet trade regulations.

What is Standard?

To ensure compliance across all these variables, companies typically implement an internal compliance audit program to review transactions before and after being declared to customs. Most trade audits merely take a random sampling from batches of cross-border transactions to test their compliance without the magic of automation at their disposal.

Authorities, on the other hand, utilize their own, different targeting methods. Frustratingly, the authorities' targets are confidential, which could mean that the efforts that companies go to for compliance could be in vain.

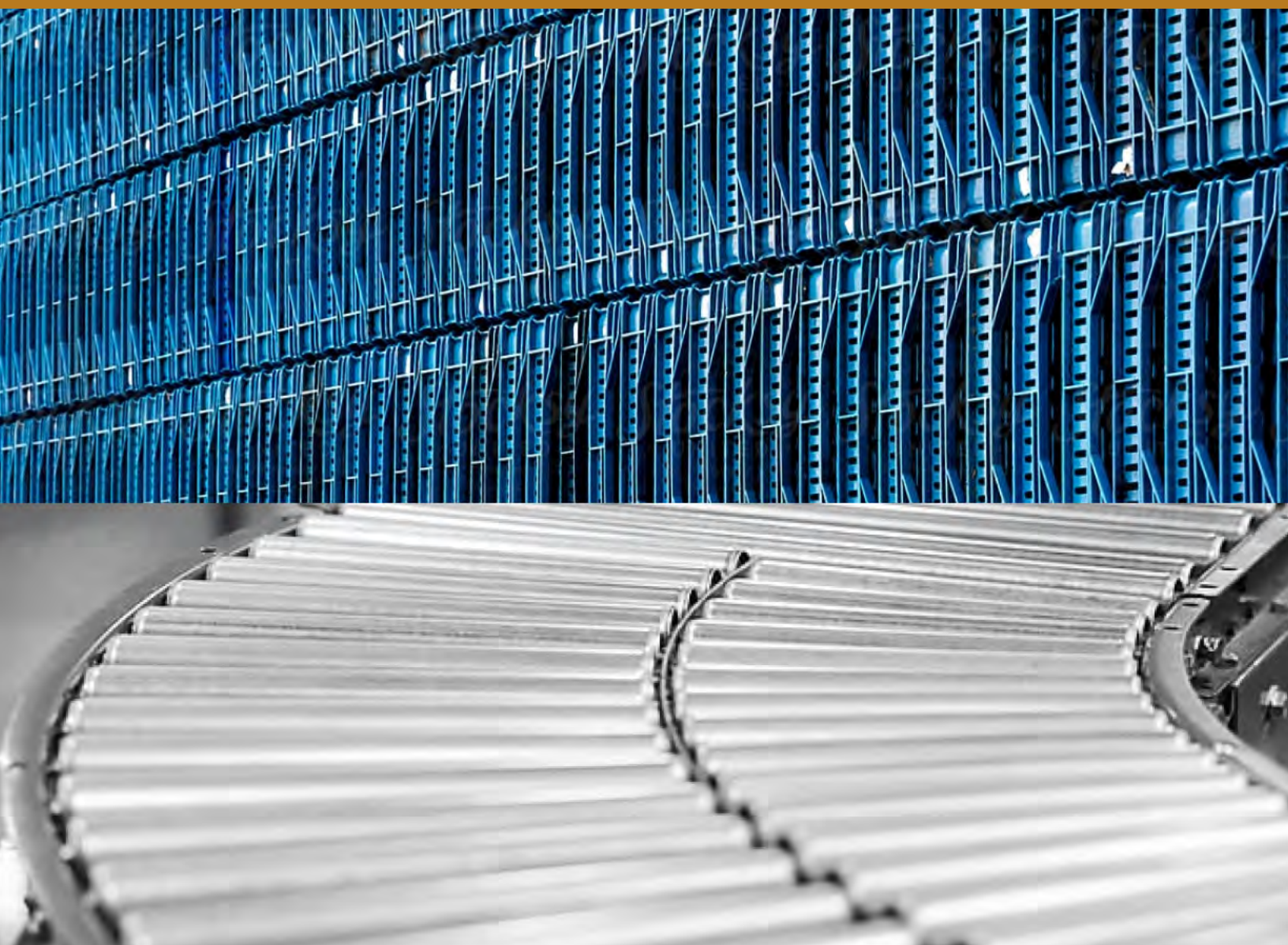
Shooting Above the Status Quo

Part of the problem with the approach by most companies to audit a purely random statistical sample is that time could be wasted auditing low-risk transactions. Or targeting a random sample of transactions inherently focuses on a company's chosen risk areas. For example they may only target entries by a specific broker, for a certain HS code, and for a particular mode of transportation. A common but inefficient way to solve this problem is to create a set of high-level categories, each with a different audit rate depending on their level of importance/severity.

This could mean that eight out of ten goods that explicitly contain explosive material may get selected for a random audit, while those containing watches (a commonly misclassified item) may get audited at a rate closer to two out of ten. This is a resource-intensive approach and crucially, it does not take advantage of ordering the transactions for audit based on risk within each category to optimize the audit process.

The bottom line? All parties must effectively manage their limited resources on whichever areas they deem to be at the greatest risk for non-compliance. **There's a better way.**

Solutions that leverage AI are able to audit 100% of their transactions in mere **seconds** – rather than days, or even weeks.



How It Works: Altana Atlas Elevates Customs Compliance

The Altana Atlas approach identifies transactions that have a high likelihood of non-compliance without needing to perform manual analysis or additional work. Solutions that leverage AI are able to audit 100% of their transactions in mere seconds – rather than days or even weeks.

About the Altana Atlas

The Altana Atlas is an AI model that connects and learns from billions of data points to create a shared source of truth on businesses and the flows of goods worldwide. The Atlas covers 400 million companies, connected by more than 2.5 billion shipments, enriched with financials, corporate ownership, geolocations, trade policies, tariff data, watchlists, and more. By connecting to the Atlas, Altana enriches customer data which provides greater insight into their products, shipments, the parties involved, and their overall network.

Used by customs authorities and the trading community alike, the Altana Atlas provides transnational supply chain visibility and transaction-level risk targeting and compliance assurance through a shared AI platform. **It provides real-time transaction-level risk targeting across disparate supply chain data in different languages, scripts, and formats** – allowing users streamlined trade compliance and risk management in an environment of messy cargo manifests, bills of lading, and customs declarations.

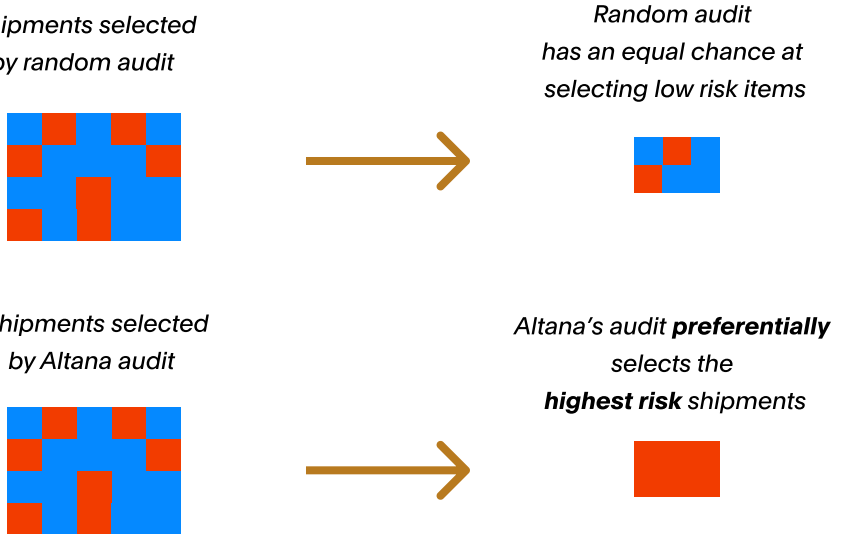
While non-compliance can come in many forms, Altana approaches the specific issue of HS code misclassification by using a complex neural network trained on billions of shipment records and customs classifications to identify cases where a product is likely misclassified, and subsequently enables users to efficiently assign the correct HS code from a range of predictions.

A neural network is an AI technique that identifies the hidden relationships between variables and performs well in very complex tasks that involve a wide variety of inputs, like HS classification.

Expedited Audits with Automated HS Code Classification

Even within a category of goods with a relatively high rate of HS misclassification, a significant amount of human time is wasted on audits, sifting through false positives. One **o**f the ways Altana's HS code classifier helps organizations order their transactions flagged for audit is by the likelihood that each line item has been assigned an incorrect HS code, rather than arbitrarily auditing for an entire category.

By using a number of line-item attributes such as product description, country of origin, valuation, port of unloading, shipper, etc, **Altana can predict with high confidence which records are likely to be misclassified from a set of combined data elements – a concept that is unreachable by traditional, simple expert rules.** Those records are then either automatically classified as the correct HS in very high confidence cases, are flagged for further review by humans in medium/low confidence cases, or deemed safe.



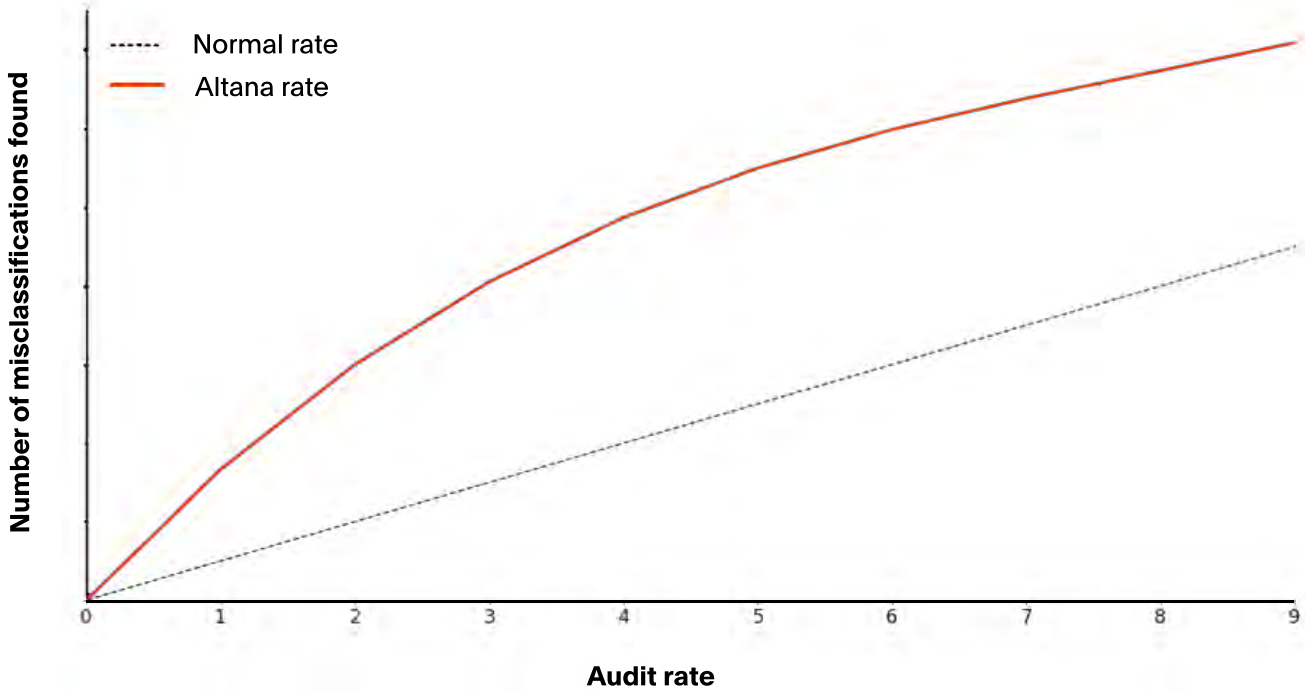
With the Atlas, users can easily adjust their preferences around which records are selected for automatic HS classification using Altana's supervised AI models that calculate the likelihood and confidence of HS code misclassification. **This maximizes the chance that audits that are flagged for further review will result in a truly misclassified record.**

The Altana Atlas returns the top HS code predictions with associated confidence scores while:

- Working across different languages and countries
- Being robust to poor data quality
- Continuously improving based on expert feedback

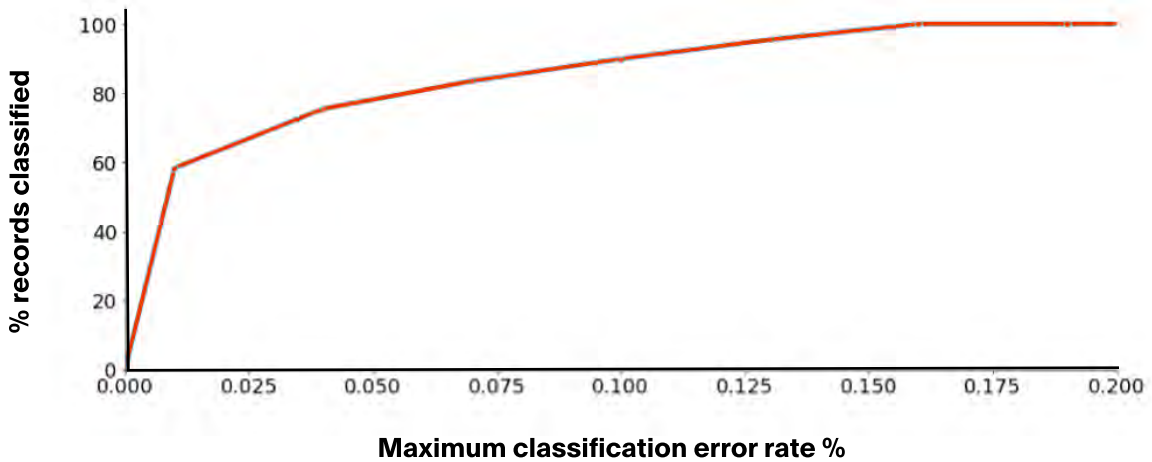
To see the difference of an Altana-ordered audit, the figure below contrasts our AI-powered audit with a random, status quo sampling where 20% of records are truly misclassified.

Using Altana's ordering, the first 1,000 audits are pre-selected to be the records that are most likely to result in a positive misclassification. **Altana can make audits around five times more efficient than manual analysis.**

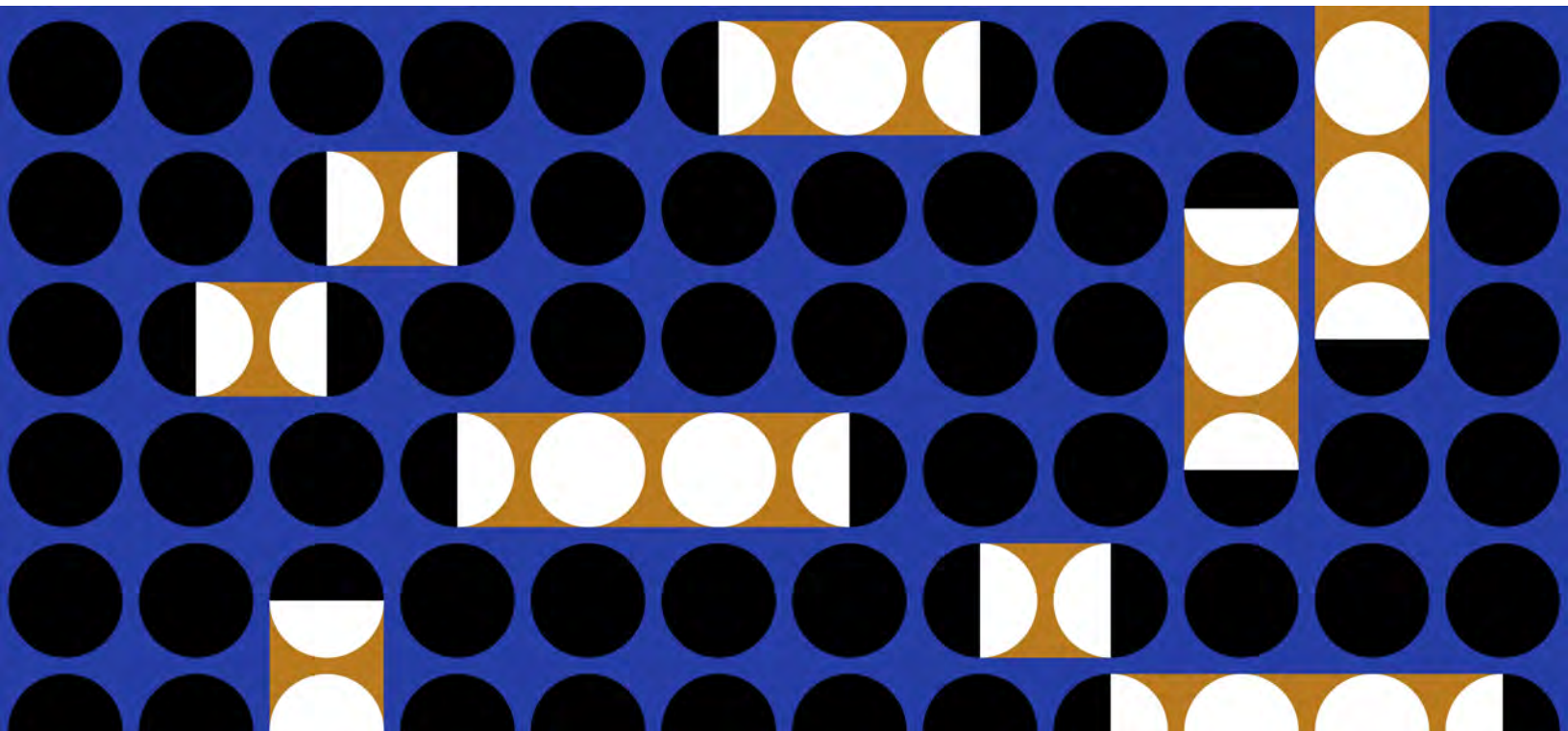


Case Study: Top Express Carrier Applies Altana's AI

In a recent project for a Fortune 100 company, Altana incorporated roughly two years of their United States import data to configure the HS classifier to best fit the company's use. Training the model across company data and the billions of shipments processed by the Atlas reduced the biases in both datasets, and allowed Altana to score transactions for misclassification risk – as well as offer high quality HS code predictions – using a model tailored specifically to this company's data.



Above, you can see the percentage of correctly classified records that were predicted by Altana's classifier at various confidence levels. Nearly 75% of those transactions were correctly classified to the HS level with an incorrect classification rate of less than 4%. In other words, **Altana was able to reach more than 96% accuracy in about three-quarters of records.** Crucially, Altana knows precisely which records we are most confident in, which allows companies to simplify their audit triage to just those transactions with particularly ambiguous product descriptions and associated line item details.



Compliance with Confidence

Unlike a simple search that only attempts to match the text of product descriptions against the HS code descriptions, Altana uses multiple features in addition to the product descriptions. The Altana Atlas considers the trading patterns of regions and companies using data elements such as valuation, the country of origin, exporter, importer, and the port of unloading to uncover the risk of product misclassification. This comprehensive approach inspires confidence in the HS classification of goods through theunlike Atlas, circumventing many of the risks of vague product descriptions. **Through AI across a global network of supply chain data – including from customs authorities and the trading community – the Altana Atlas provides an unprecedented source of truth on cross-border shipments, unlocking new possibilities in customs classification and auditing.**

The Altana Atlas' insights are only possible due to Altana's deep understanding of the global supply chain.

Using the Altana Atlas, organizations can maximize use of their proprietary global trade data to identify transactions with a high probability of non-compliance. **Efficient and productive use of human resources are within grasp with AI that takes the intelligence of billions of shipment histories to inform the future.**

Trade compliance targeting and enforcement is becoming more of a shared enterprise between governments and cross-border logistics and e-commerce service providers. Improved classification and auditing could prompt logistics service providers, customs brokers, and consultants to provide more value-added opportunities for their clients enabling them to dig deeper into their risks of non-compliance, which could include:

- Post-entry corrections or amendments
- Duty drawbacks
- Next-level due diligence such as: collecting supporting documentation, conducting a country of origin audit, or preparing for possible physical inspections before shipments are declared.

Utilize the Altana Atlas predictive audits to save time and resources, and increase compliance.

Altana

It is time for a better globalization. Our supply chains can be reliable and resilient. We can trust that our goods are produced sustainably. We can prevent security threats and abuses of the international system. We can include more of society in the benefits of trade and capitalism. By creating a shared source of truth on global commerce, we can bring opaque networks into the light, design for resiliency, and build trust.

Altana AI provides a shared artificial intelligence model of the global supply chain to help governments and the private sector build better global commerce. Our platform is a single source of truth on businesses and the flows of goods worldwide.

Learn more at altana.ai or contact us.