

Assent

Faster Intelligence. Stronger Supply Chains.

eBook

Automotive

Navigating the Compliance Landscape

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Introduction

The automotive industry's regulatory environment is more complicated than ever, with rules changing faster than many organizations can shift gears. What was once a mix of safety and emissions requirements has expanded into sustainability mandates, supply chain due diligence laws, digital reporting obligations, and trade complexity. Automakers and suppliers must now prove their vehicles are safe, materials are responsibly sourced, chemicals are disclosed from deep in the supply chain, and product life cycle impacts are addressed. And with electric and software-defined vehicles on the rise, requirements are only going to increase. The cost of a wrong turn on the road to compliance is enormous.

Without a robust supply chain sustainability data management system in place, you could face serious enforcement action in the form of recalls, lost market access, fines, and reputational damage. This eBook covers key supply chain compliance considerations for manufacturers and distributors in the automotive industry.

CHAPTER 01



An Industry Overview

In the automotive industry, the supply chain is incredibly complex. Even seemingly simple components can be composed of hundreds of parts across the supply chain that are built to complex specifications, with little flexibility when it comes to the substances used in manufacture. These parts may also enter multiple countries to undergo custom transformation processes (e.g. plating, hardening, and heat treatment) before they are sent to the next level of manufacture. The parts and subparts within their products may be subject to different regulatory requirements that the manufacturer must be aware of. Tracking product and part information through the supply chain at this depth can be almost impossible with manual programs.

Inside a Car Seat: A Global Supply Chain Story

One automotive component made of dozens of parts sourced across continents.

100+ components

10+ countries

Multiple tiers of suppliers

A **Fastners & Small Components**
Bolts, screws, plastic clips, adhesives

B **Electronics & Smart Features**
Healting elements, ventilation fans, motors, wiring harness, occupancy, control module

C **Foam Cushioning**
Polyurethane foam base and back

D **Structural Frame**
Steel or aluminum frame, recliner mechanism, brackets

E **Upholstery**
Fabric, leather, or synthetic leather

Brazil, Argentina, China, South Korea, India, Vietnam, Poland, Saudi Arabia, Thailand, Mexico, U.S., Germany, Japan, Taiwan, Chile, Malaysia





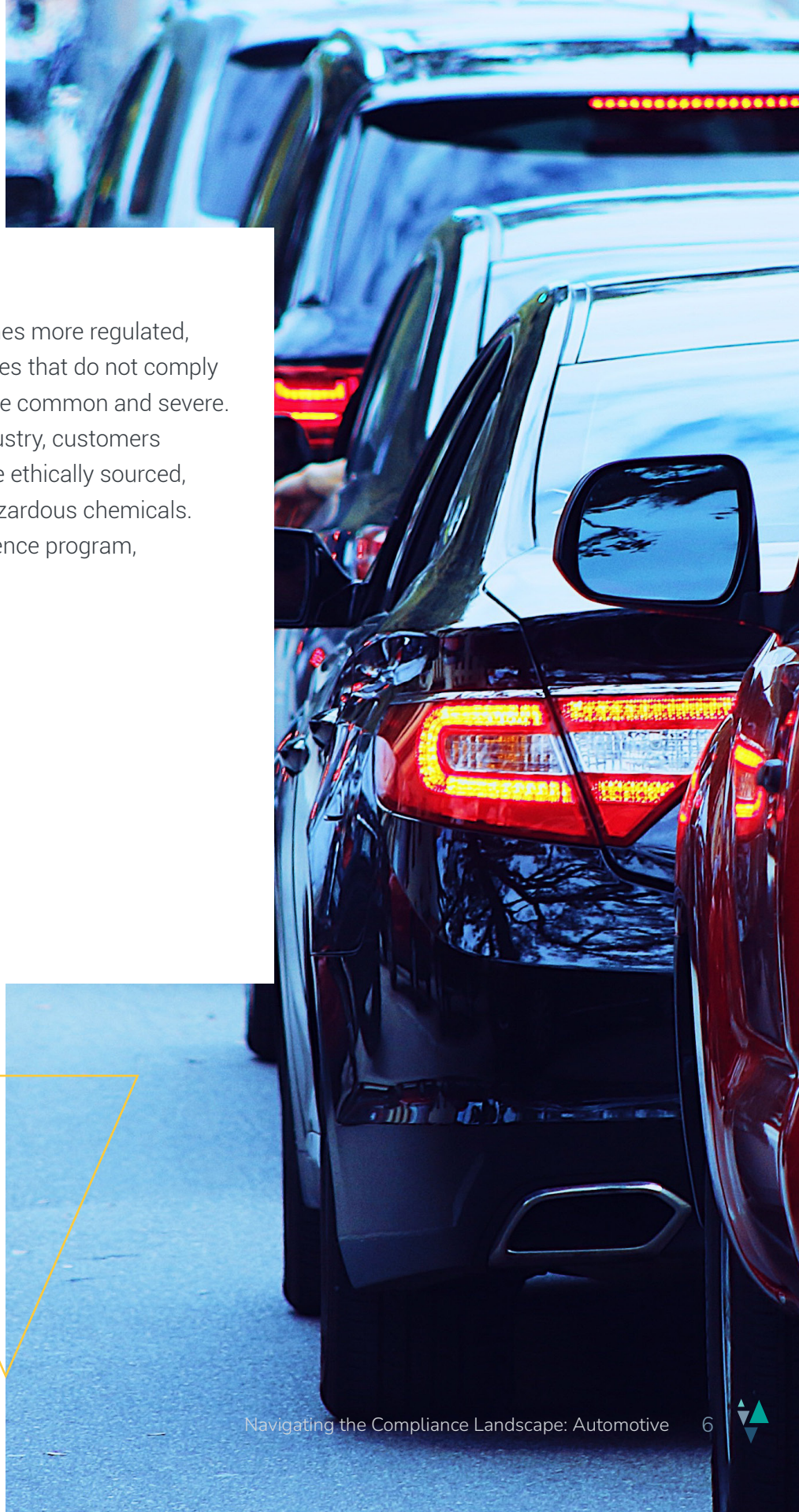
Beyond just supply chain complexity, automotive companies are also in scope of a wide variety of regulations and industry requirements they must meet to keep their products on the market:

- EU End-of-Life Vehicles (ELV) Directive
- REACH Regulation
- Corporate Sustainability Reporting Directive (CSRD)
- Corporate Sustainability Due Diligence Directive (CS3D)
- U.S. Toxic Substances Control Act (TSCA)
- Global and U.S. state-level PFAS regulations
- EU Batteries Regulation
- California Proposition 65
- EU Biocidal Products Regulation
- Section 1502 of the Dodd-Frank Act
- EU Conflict Minerals Regulation
- U.S. Department of the Interior's Strategic and Critical Materials Inventory
- France's Corporate Duty of Vigilance Law
- Various free trade agreements, tariffs, and sanctions

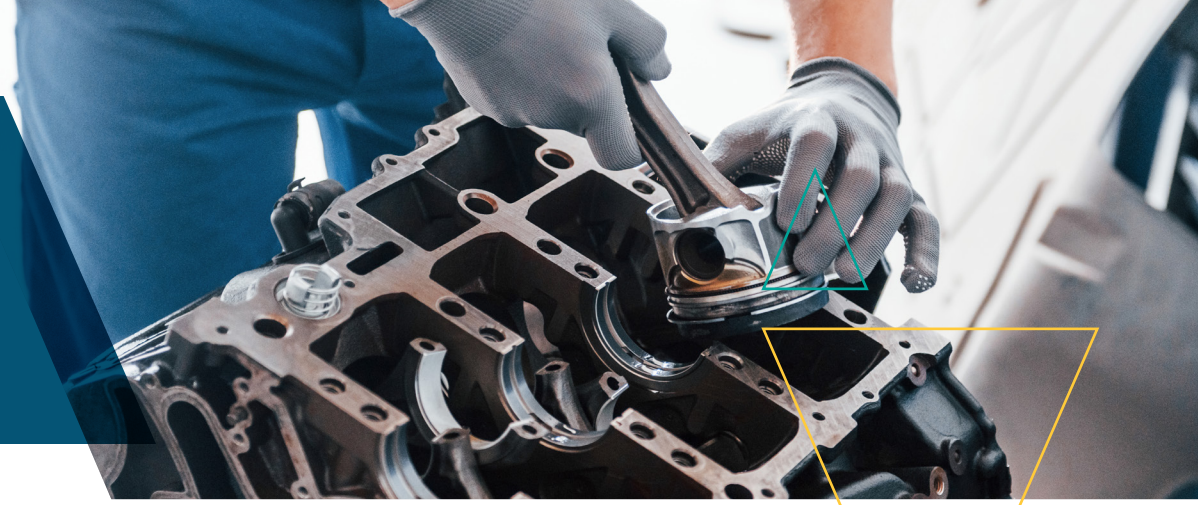
In addition to these requirements, manufacturers selling into the EU will be expected to complete a Digital Product Passport (DPP) for every product. This involves gathering and reporting on auditable, product-level sustainability data, including carbon footprint, material composition, recycled content, and ethical sourcing. Systems like the International Material Data System (IMDS) — which largely capture material composition for automotive parts — and manual data management processes can't connect and validate this information across all data types and and supply chain tiers, leaving gaps in visibility. This exposes manufacturers to major market access risks and places significant new data burdens on suppliers.

As the international marketplace becomes more regulated, enforcement activities against companies that do not comply with global regulations are growing more common and severe. Moreover, in this hyper-competitive industry, customers expect the products they purchase to be ethically sourced, manufactured humanely, and free of hazardous chemicals. Without a strong supply chain due diligence program, manufacturers may face:

- Damage to brand reputation
- Contract loss
- Investment loss
- Fines and penalties
- Loss of market access
- Additional regulatory oversight



CHAPTER 02



Materials Compliance

Automotive products can be complex, and product composition requirements are stringent. Legislation such as REACH, Proposition 65, and U.S. TSCA outline firm requirements for any company selling goods in the U.S. or EU, and given how many industries automotive touches, there are a lot of rules to keep track of.

This is why companies need to maintain a complete view of their products' composition, including the materials and chemicals used during the manufacturing process.

However, there are several barriers to getting quality data:

- Uncertainty about which optional substances were used in the process of manufacture
- Complex parts containing several subparts, each requiring independent documentation
- Legacy data stored on out-of-date systems that cannot integrate with other solutions or data exchange standards
- Unclear technical design authority

A supply chain sustainability management solution can help companies address these challenges with greater cost savings and efficiency than internal systems. Plus, most legacy software systems can't integrate with the International Material Data System (IMDS) or carry out the workflow automation and data-sharing needed to stay on top of changing requirements.

End-of-Life Vehicles Directive

The End-of-Life Vehicles (ELV) Directive aims to minimize the environmental impact of vehicles once they reach the end of their useful life. It sets clear targets for reuse, recycling, and recovery, and places extended producer responsibility (EPR) on vehicle manufacturers and importers to ensure materials are properly managed. This includes designing vehicles with dismantling and recycling in mind, reducing the use of hazardous substances, and achieving specific recovery and recycling rates by weight.

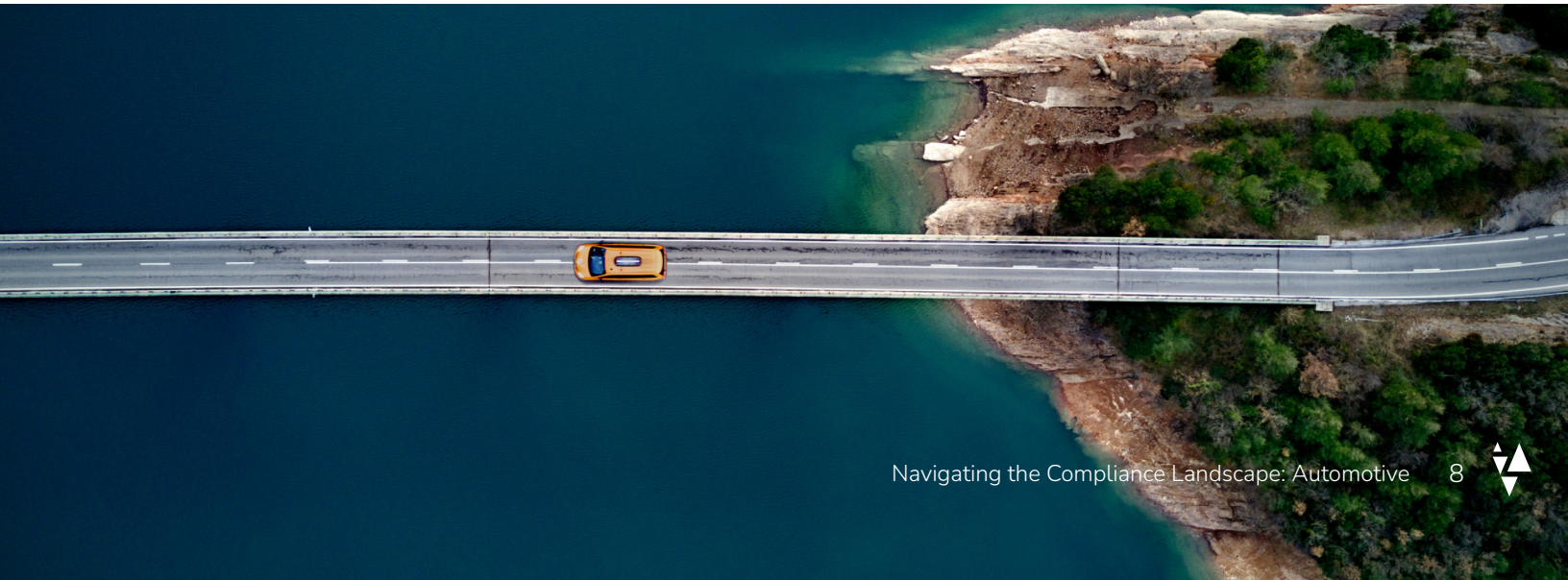
PFAS

Over the past several years, governments have introduced stricter controls on per- and polyfluoroalkyl substances (PFAS) due to their negative impacts on the environment and human health. In the U.S., they are regulated both at the national level by the Toxic Substances Control Act (TSCA) and at the state level in various jurisdictions, including Minnesota, Maine, New Mexico, Colorado, and Washington. The EU is currently looking at regulating PFAS use under REACH.

To comply with these rules, automotive manufacturers and their suppliers must understand where PFAS are found in their complex global supply chains. This means identifying PFAS not just in products but also in manufacturing processes, and eliminating or substituting these chemicals where required. Meeting these obligations involves significant data collection, supplier engagement, and cross-functional collaboration to ensure compliance and mitigate risk.

EU REACH

The Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation governs the use of substances of very high concern (SVHCs) and may impose communication, notification, authorization, or



restriction requirements when those substances are present in materials, components, or finished vehicles sold in the EU. To effectively manage these obligations, automotive manufacturers should maintain a comprehensive and up-to-date inventory of all substances, mixtures, and articles used in their operations and incorporated into their vehicles and components.

The Proposition 65 Handbook

Learn more about product labeling requirements under Proposition 65.

Download eBook

Proposition 65

Under California's Proposition 65, companies are required to place warning labels on their products if they contain substances listed by the Office of Environmental Health Hazard Assessment (OEHHA). In the automotive industry, components that may be impacted include wire harnesses, brass fittings, interior plastics, electronics, and batteries. To comply, manufacturers must have full visibility into the substances used in automotive components and affix warning labels to affected products naming at least one listed substance.

How to Get the Data You Need

Full Material Disclosures

Although companies may collect data to comply with single regulations, using full material disclosures (FMDs) to understand the complete composition of their products can help them proactively manage requirements. When used in combination with a robust data management system, they can ensure the information in the FMDs remains complete and current.

Global Automotive Declarable Substance List

Developed by the Global Automotive Stakeholders Group (GASG), the Global Automotive Declarable Substance List (GADSL) is a list of substances and substance groups commonly used in the automotive industry that are restricted or controlled by regulatory requirements, including REACH, ELV, and Proposition 65. The GADSL provides manufacturers with a common list in Excel format to collect data on every substance that could present a risk to their products.

International Material Data System

The International Material Data System (IMDS) is a database created and used by automotive OEMs to demonstrate their compliance with the ELV and Reusability, Recyclability and Recoverability (RRR) directives, in addition to reporting requirements with other legislation that impacts the automotive industry. Use of the IMDS is a business requirement for working with numerous OEMs, and getting information to enter into the system is a complicated manual process. Most manufacturers will use IMDS-derived data for their Type Approval processes, needed for placing cars on the EU market.

IPC-1752A & IEC 62474 for Automotive Electronics

Automotive companies need to collect substance data for any hazardous materials in vehicle electronics. They can do so using the IPC-1752A or IEC 62474 data formats.

IPC-1754

Developed by the Association Connecting Electronics Industries (IPC) and sponsored by the International Aerospace Environmental Group, IPC-1754 is a standard XML format that allows companies to request, transmit, and analyze declarable substance list (DSL) data across the supply chain. Companies can ensure data is exchanged in a standard format. Automotive companies can leverage IPC-1754 to send data requests in alignment with the GADSL.



Technical Design Authority & Data Sources

The supply chain that contributes to each product can be unique. Companies must use different strategies to send data requests to the correct destination and manage campaigns efficiently.

Product sources should be grouped into three categories to determine data acquisition best practices:

- Mixtures and substances.
- Standard parts (also known as commercial-off-the-shelf, or COTS).
- Original equipment manufacturer (OEM)-defined.

	MIXTURES & SUBSTANCES	STANDARD PARTS	OEM-DEFINED PARTS
TECHNICAL DESIGN AUTHORITY	Chemical formulators and mixers, material manufacturers.	Manufacturer of COTS parts, standards bodies.	OEMs, contract manufacturers
OPTIONAL SUBSTANCES	Variance expected; depends on how well data is defined and maintained	Low variance	Variance expected; depends on how well data is defined and maintained
SUPPLIER TYPES	Chemical formulators chemical mixers	Distributors, purchasing agents.	OEMs, contract manufacturers
PRODUCT TYPES	Degreasers, glues, sealants, oils	Nuts, bolts, screws, rivets, washers, resistors, capacitors	PCBA, specialist hoses, pipes, connectors
DATA ACQUISITION	SDS, compliance statements	Compliance statements, part manufacturer.	Compliance statements, OEM, contract manufacturer

CHAPTER 03



Supply Chain Sustainability

Global companies have a responsibility to build supply chain sustainability programs to satisfy the expectations of their customers and stakeholders. The highest-earning automotive companies in the world are taking sustainability seriously and implementing programs to mitigate the risks of human rights violations, environmental contamination, and dangers to human health in their supply chains.

Failing to navigate this regulatory landscape effectively can interrupt the production process as decisively as any product compliance restriction. If an in-scope factory in your supply chain gets shut down due to labor or human rights infractions, you could lose access to the parts or substances you need to continue production and keep up with purchase orders.

The EU Batteries Regulation

The EU Batteries Regulation (EUBR) requires automotive manufacturers to ensure batteries are sustainably sourced, traceable, and compliant across their full life cycle, from raw material extraction through end-of-life recycling. It introduces mandatory carbon footprint reporting, supply chain due diligence for key raw materials, recycled content targets, and performance requirements. A central component is the Digital Product Passport (DPP) for electric vehicles and industrial batteries requiring structured, standardized, and auditable data. As a result, automotive manufacturers must collect and share complete and accurate material, carbon, and sustainability data that meets evolving DPP standards.

The Corporate Sustainability Reporting Directive

Enforcement for the Corporate Sustainability Reporting Directive (CSRD), along with the Corporate Sustainability Due Diligence Directive (CS3D), is looming. These directives will introduce new disclosure obligations for companies in the automotive sector. As these rules take effect, manufacturers will need to start preparing for compliance, with exact requirements varying based on factors such as company size and geographic footprint. Suppliers should also anticipate increased scrutiny, as OEMs are likely to cascade these obligations throughout their supply networks, requesting verified data on human rights practices and overall supply chain sustainability performance.

The Product Sustainability Handbook

Get expert guidance on product sustainability regulations like EUBR, CSRD, and more.

Download eBook

Human Trafficking & Slavery

Because automotive companies purchase materials from many high-scrutiny sectors, such as textiles and electronics, companies are aiming to mitigate human trafficking and slavery risk in their supply chain to protect their brand and their bottom line. Legislation has also made it imperative that they do so.

The growing list of human trafficking and slavery legislation includes the German Supply Chain Due Diligence Act, French Duty of Vigilance Law, the Countering America's Adversaries Through Sanctions Act (CAATSA), the U.S. Trade Facilitation and Trade Enforcement Act, the Dutch Child Labour Due Diligence Law, and the Australian Modern Slavery Act.

Responsible Minerals

Automotive companies make heavy use of metals, and so they have obligations under Section 1502 of the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act and the EU Conflict Minerals Regulation. These pieces of legislation require in-scope companies to report on their sourcing of tin, tungsten, tantalum and gold (also known as the 3TGs) from war-torn regions.

In addition to the 3TGs, companies may choose to report on their use of other minerals, such as mica, lithium, copper, and cobalt. Their customers may also ask them to provide data on these minerals. As electric vehicles become more ubiquitous, cobalt in particular is becoming a key mineral of interest. This is because the lithium-ion batteries in electric vehicles use cobalt as an electricity sink and conductor.

Getting the Data You Need

The Responsible Minerals Initiative (RMI) provides training, resources, and audit programs to companies working to strengthen their response to conflict minerals requirements. Working with industry leaders, the RMI publishes the Conflict Minerals Reporting Template (CMRT), the Extended Minerals Reporting Template (EMRT), and the Additional Minerals Reporting Template (AMRT). These standardized templates help companies gather data on the 3TGs, cobalt, and more.

For other topics, the Global Reporting Initiative (GRI) provides sustainability program guidance, educational resources, and a comprehensive range of standards that streamline the data collection process so in-scope companies can show progress in economic, environmental, and social topics. Leveraging these standards helps companies address stakeholder expectations as well.

Five Keys to Sustainability Success

1. **Gain executive buy-in.**
   Securing commitment to ethical and legal sourcing practices from management and executive staff is critical to any successful sustainability program.
2. **Identify measurable goals.**
   Outline any measurable goals and commitments that align your sustainability plan with your business strategy and selected disclosure approach.
3. **Make a proposal for sustainability actions.**
   Develop an inventory of sustainability activities important to your company and its key stakeholders.
4. **Take a programmatic approach.**
   Create a supplier outreach campaign with regular progress checks.
5. **Educate your supply chain.**
   Implementing a training program for employees and suppliers will enhance your initiatives.

CHAPTER 04



Trade Compliance

Trade compliance is complicated, but especially so in the automotive industry. Supplier networks are vast and complex, and parts cross many borders during the manufacturing process. This makes it important for importers to collect country of origin data for the parts they use.

On top of this, the U.S. federal government has introduced tariffs and other rules — such as a requirement that a certain percentage of parts be made in North America — that create additional challenges for manufacturers and importers. As of June 2025, automotive companies must contend with tariffs on steel (25% from the UK and 50% from everywhere else) and aluminum (25% from the UK, 200% from Russia, and 50% from everywhere else) being imported into the United States.

Some countries have created reciprocal tariffs, such as those introduced by the Canadian government. Fluctuating free trade agreements create additional uncertainty regarding the profitability of a company's global products

Companies can address these risks by implementing a vendor management strategy that manages trade issues by proactively acquiring customs data. This information can be used to calculate tariffs and select suppliers strategically.

Free Trade Agreements

Canada, the EU, and the U.S. are three of the world's largest automotive industry producers. In North America, there are two central free trade agreements: the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the United States-Mexico-Canada (USMCA) agreement. Under USMCA, 75% of a vehicle must be composed of North American parts.

Country of origin (COO) certificates and Harmonized Commodity Description and Coding System (HS) codes can be used to produce certifications for products covered by free trade agreements in North America, as well as hundreds more across the global business-to-business marketplace.

Country of Origin & HS Codes

Currently, U.S. Customs and Border Protection (CBP) requires automotive suppliers to report on country of melt and pour for steel, and smelt and cast for aluminum. Failure to provide accurate information can mean overpaying millions of dollars in tariffs. As such, COO certificates and HS codes help companies manage the rising cost of international tariffs. COO certificates are required to calculate tariffs, and comply with protectionist policies such as Buy American, CAATSA, and NAFTA.

HS codes determine the cost of tariffs placed on imported goods. U.S. Harmonized Tariff Schedule (HTS) codes provide the same data as an HS code (a six-digit value) but add an additional four digits for region-specific classification. Accessing these codes can also help determine the type and classification of a product, and exemptions it may qualify for.



HS Code: 4901.91

Six-digit product classification code used by U.S. Customs and all other members of the World Customs Organization (WCO)

4901.91 Printed books, newspapers, pictures and other products of the printing industry: manuscripts, typescripts and plans

First two digits identity the chapter in the HS Nomenclature

4901.91 Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets

Second two digits identify the heading within that chapter

4901.91 Dictionaries and encyclopedias, and serial installments thereof

Last two digits identify the sub-heading within that chapter

HTS Code: 4901.91.0020

10-digit product classification code administered by the U.S. International Trade Commission (USITC)

4901.91.0020 Dictionaries and encyclopedias, and serial installments thereof

First six digits are an HS code

4901.91.0020 Dictionaries and encyclopedias, and serial installments thereof

Next two digits identify the U.S. subheading of the HS code and established duty rates

4901.91.0020 Dictionaries (including thesauruses)

Last two digits are a statistical suffix that collect trade data and do not classify the product. The stat suffix must be correct when required, and if not required, the last two digits will be 00.

Buy American Act

There is no legislation that makes it mandatory for American companies to buy from U.S. manufacturers. Still, U.S. administration has implemented several enforcement measures that influence companies to do so. In general, products purchased by the U.S. government must be American manufactured to a designated threshold. Failing to meet these requirements can lead to consequences at several procurement stages:

- At acquisition, where a proposal may be denied.
- During bidding, where a competitor may file a protest.
- In the field, when quality control identifies and replaces non-compliant products.
- Near completion, where the government retains the right to retrieve funds.

Getting the Data You Need

Trade compliance efforts are generally deployed through surveys. These surveys can be configurable based on the unique questions companies have for their suppliers. A supply chain sustainability platform can provide templates and ingest surveys to help manufacturers access data cost-effectively, with built-in configurability to add custom fields.

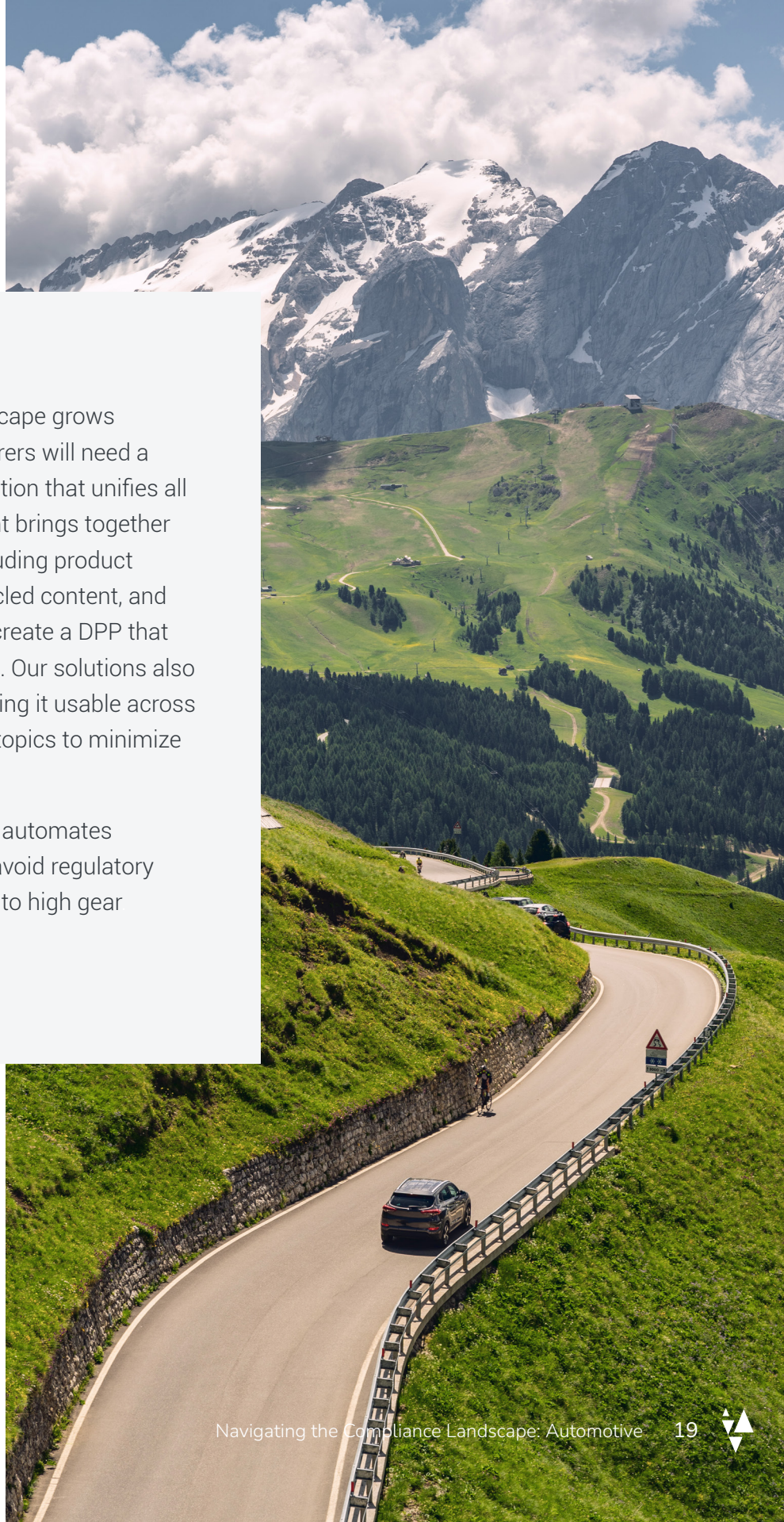


Conclusion

As the automotive compliance landscape grows more and more complex, manufacturers will need a comprehensive, platform-based solution that unifies all their data in a central location. Assent brings together all the information you'll need — including product composition, PFAS, PCF inputs, recycled content, and responsible sourcing evidence — to create a DPP that meets the expectations of regulators. Our solutions also complement your IMDS data by making it usable across other compliance and sustainability topics to minimize duplicate effort.

See how Assent's AI-native platform automates your compliance efforts so you can avoid regulatory roadblocks and shift your program into high gear

Book a Demo





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