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Supply Chain Traceability: Where Do You Start?



Contents:

- **What is Traceability?**
 - Why Does it Matter?
- **Getting Started**
 - Where, What and How
- **How it Supports Regulatory Compliance**
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About



Ammi Borenstein

Snaplinc Consulting



About me:

30+ years in snow and outdoor industries.

Leadership roles at K2 and Outdoor Research.

Introduced hundreds of styles and millions of units to market.

Executive committee that initiated the Higg Index.

Led sustainability efforts in snow and outdoor since 2007.

Founded Snaplinc Consulting in 2018 to help the best brands manage and mitigate environmental impacts.

About Snaplinc Consulting:

Sustainability and ESG support for a range of sectors.

Strategy setting.

ESG/ Sustainability Reports.

Environmental assessments.

Supply chain and labor due diligence.

Materials and chemicals assessments.

Sustainability compliance.





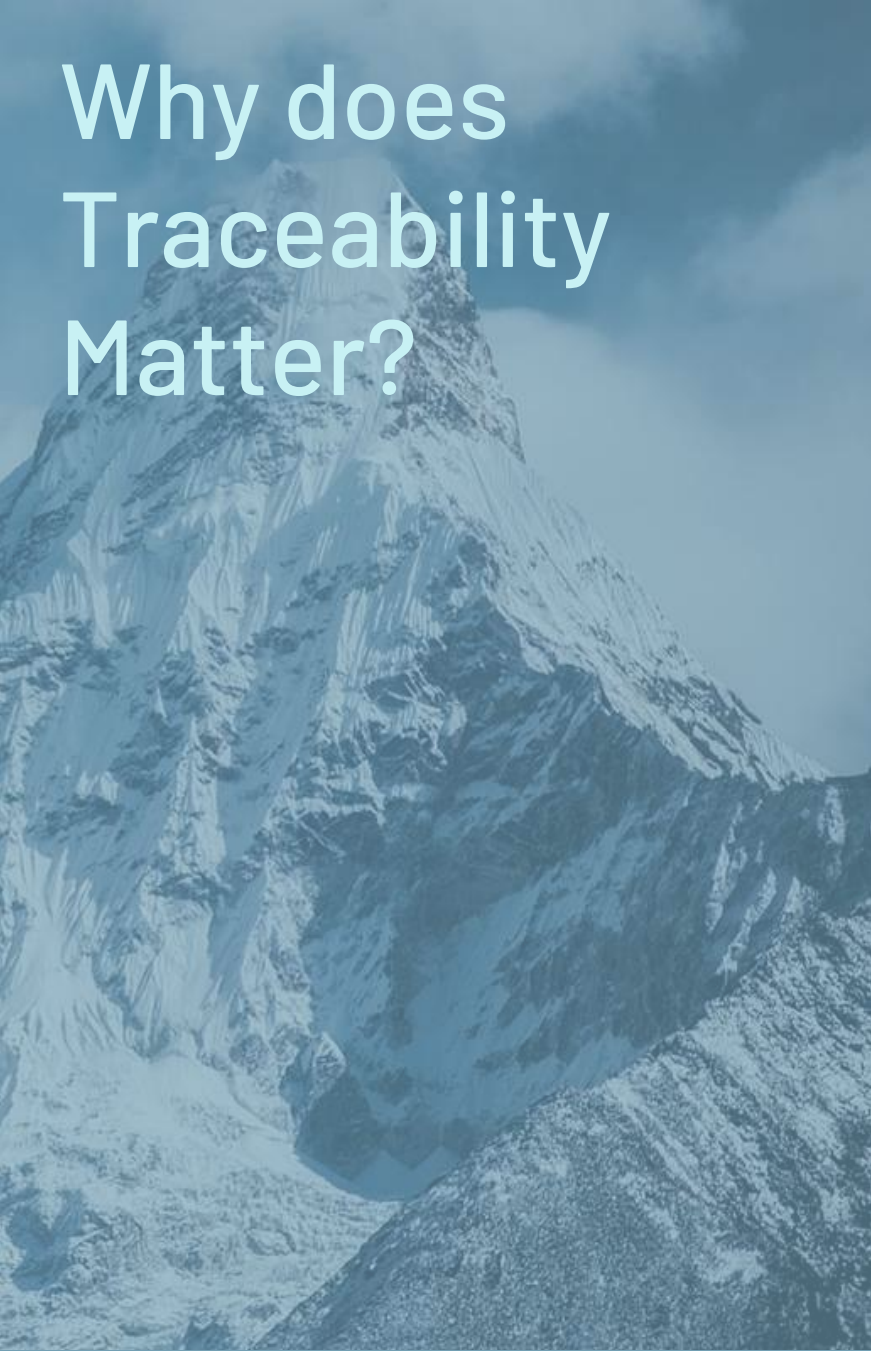
What is traceability? Why does it matter?

What is Traceability?

Supply chain traceability refers to the ability to track a product, its components, and raw materials from origin to end use.

- Upstream Traceability
 - Tracks raw materials and components from suppliers.
- Internal Traceability
 - Tracks products, process gaps and related information within a company's operations.
- Downstream Traceability
 - Tracks finished goods through distribution and retail to the consumer.





Why does Traceability Matter?

It ensures transparency, compliance, and risk management across the supply chain.

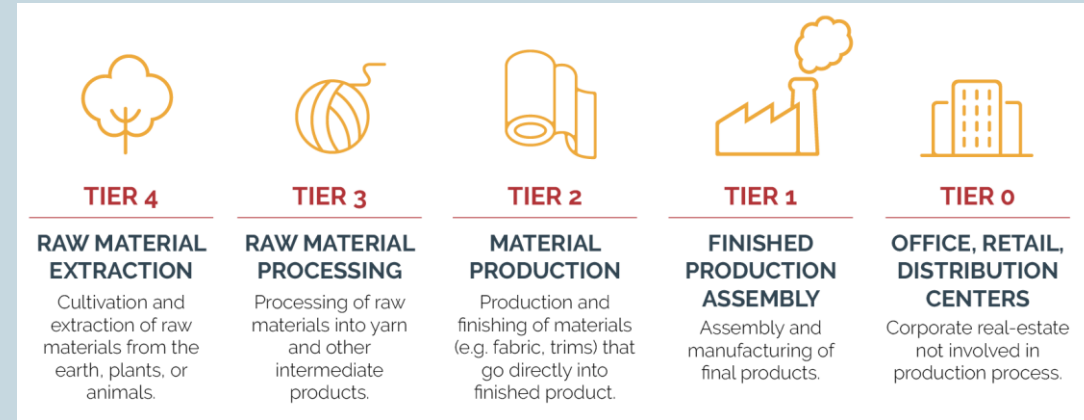
- Regulatory Compliance
 - ESPR, DPP, PFAS, EUDR, EPR, UFLPA, Lacey Act and many other regulations require detailed supply chain data.
- Sustainable materials and fair labor
 - Companies need to verify sustainable practices and responsible sourcing.
- Risk Management & Recalls
 - Helps trace back non-compliant products or materials to their source.
- Stakeholder Demand
 - Wholesale buyers and consumers increasingly expect transparency in product origins and environmental impact.



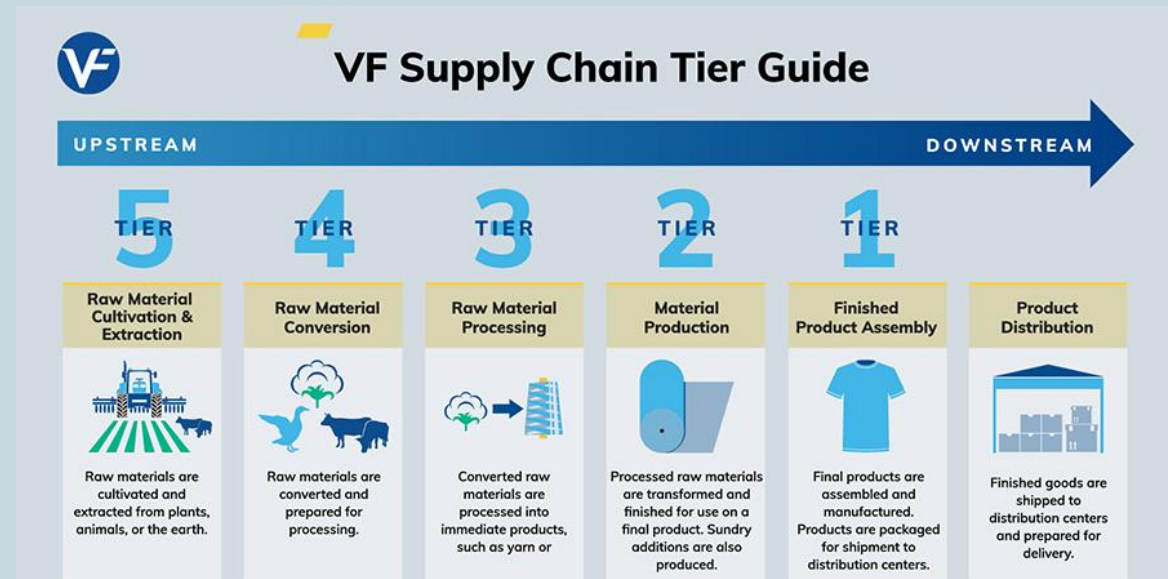
Getting Started: Where to Trace

Supply Chain Tiers & Descriptions

Tier definitions by industry:



Tier definitions by company:



Supply Chain Tiers & Descriptions



Tier 1: Final Assembly

Factories that assemble finished products (e.g., apparel, ski boots, bindings).

Responsible for product assembly, labeling, packaging, and quality.

Compliance focus: labor conditions, social audits, and final product quality.

Tier 2: Material Suppliers

Suppliers providing processed materials such as textiles, polymers, and metals.

Includes fabric mills, plastic molding plants, and leather tanneries.

Compliance focus: material composition, restricted substances, and sustainability claims.

Supply Chain Tiers & Descriptions

Tier 3: Raw Material Processing

Facilities that convert raw materials into usable inputs, such as fiber spinning, polymerization, and metal refining.

Includes dyeing and finishing facilities for textiles.

Compliance focus: chemicals management, greenhouse gas, and traceability of raw material sources.

Tier 4: Raw Material Extraction

The origin of raw materials, such as cotton farms, rubber plantations, petrochemical refineries, and mines.

Includes farms, logging sites, mines.

Compliance focus: deforestation risk, forced labor prevention, and sustainable sourcing.



Getting Started: What to Trace

What to trace and at which tiers

Facility Information

Factory name, location, ownership details

Production capacity and subcontracting practices

Tiers: 1-4

Product & Material Data

SKU-level tracking (barcodes, serial numbers)

Bill of Materials (BOM) and material origin tracking

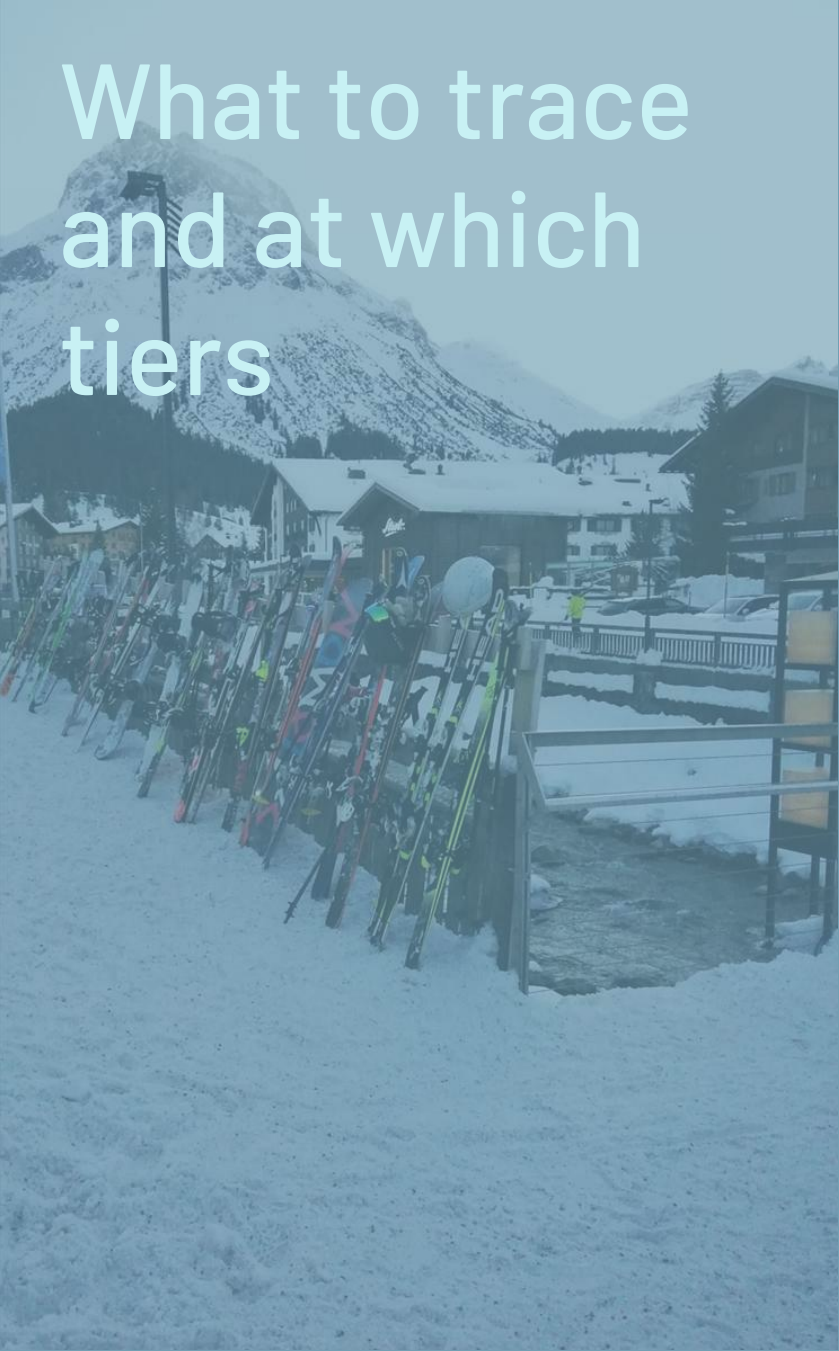
Tiers: 1-3

Chemical & Environmental Compliance

Presence of restricted substances (PFAS, REACH, Prop 65)

Wastewater, air emissions, and carbon footprint tracking

Tiers: 2-4



What to trace and at which tiers

Labor & Social Compliance

Worker conditions, wages, and social audits (SA8000, WRAP, Fair Trade)

Tiers: 1-2

Recycled & Sustainable Content

Percentage of recycled material (GRS, FSC, RCS certification)

Source of recycled fibers (ocean plastics, post-consumer waste)

Tiers: 2-3

Traceability & Chain of Custody

Supplier transparency agreements and documentation

Forced labor risk assessments (UFLPA compliance)

Chain of custody tracking for high-risk materials (cotton, rubber, metals)

Tiers: 1-4



What to trace and at which tiers

Deforestation & Legal Harvesting Compliance

Geolocation data for wood, rubber, and plant-based materials (EUDR, Lacey Act)

Legality verification and sustainable sourcing certification

Tiers: 3-4

Energy & Water Use

Energy consumption at processing facilities

Water use in dyeing, textile production, and material extraction

Tiers: 2-4

End-of-Life & Circularity

Take-back programs and product recyclability tracking

Design for disassembly and extended producer responsibility compliance

Tiers: "0"

What to trace and at which tiers

What to Trace	Tier 1 (Final Assembly)	Tier 2 (Material Suppliers)	Tier 3 (Raw Material Processing)	Tier 4 (Raw Material Extraction)
Facility Information	X	X	X	X
Product & Material Data	X	X		
Chemical & Environmental Compliance		X	X	X
Labor & Social Compliance	X	X		
Recycled & Sustainable Content		X	X	
Traceability & Chain of Custody	X	X	X	X
Deforestation & Legal Harvesting			X	X
Energy & Water Use		X	X	X
End-of-Life & Circularity	X	X		



Getting Started: How to Trace

How to Trace

Internal Knowledge Graph and Gap Analysis

Document all existing information including supplier lists, geographic information, material types, material sources and more.

Document all regions you sell into with product type, unit sales and revenue for each.

Document what regulations you know you are already meeting.

Identify data locations and/ or consolidate data into accessible formats and locations.

Perform gap analysis to assess what's missing.

Assess Regulatory Exposure

Determine which regulations apply to you, where and when.

Develop timeline for compliance.

Focus on most urgent requirements.

Map the Supply Chain & Identify Risks

Document all known Tier 1 and Tier 2 suppliers.

Work through known suppliers to identify Tier 3 and Tier 4 sources.

Focus on high-risk materials (e.g., cotton, wood, leather, chemicals) and geographies.

Use supplier surveys and third-party databases to complete the picture.

Develop chain of custody insights.

How to Trace

Strengthen Supplier Agreements & Collaboration

Include traceability clauses in contracts across all tiers.

Require Tier 1 and Tier 2 suppliers to disclose their upstream partners.

Engage Tier 3 and Tier 4 suppliers where feasible to request transparency.

Offer incentives for transparency, such as preferred supplier status.

Leverage Technology for Data Management

Integrate traceability systems and data with existing ERP or PLM platforms.

Investigate platforms for traceability data management and supply chain mapping.

Track movement of parts and materials with digital identifiers such as QR codes and RFID.

Conduct Material Testing & Verification

Use lab testing for PFAS, heavy metals, or recycled content.

Assess potential use of isotope or forensic analysis for geographic origin confirmation.

Require third-party certifications (e.g., GRS, FSC, Fair Trade).

Validate claims of recycled or bio-based content using material testing.

How to Trace

Engage in Industry Collaboration & Shared Databases

- Use available industry resources (SIA Member Resources!).
- Join shared platforms (Worldly/ Higg).
- Participate in pre-competitive mapping initiatives (Open Supply Hub).
- Leverage industry coalitions to improve supplier transparency.

Pilot & Scale a Traceability Program

- Choose one priority/ high risk material or product and trace it from Tier 1 to Tier 4.
- Test your data collection process and refine supplier communication.
- Set clear KPIs and measure traceability effectiveness.
- Scale gradually across categories and regions.

Prepare for Regulatory Audits, Reporting & Compliance

- Organize traceability documentation by product and tier.
- Build internal processes for data access and reporting.
- Train your team to respond to traceability requests and audits.
- Develop reporting timeline and methods.
- Define internal accountability.
- Regularly review and update compliance procedures.



How Traceability Supports Regulatory Compliance

Regulatory Coverage by Required Data

Forced Labor Reporting (UFLPA, Canada, EU, UK)

Requires Facility Information, Labor & Social Compliance, and Chain of Custody Tracking to verify no forced labor is used.

Tiers: 1-4

PFAS Reporting (TSCA, State Bans, Canada Reporting)

Mandates Product & Material Data, Chemical & Environmental Compliance, and Traceability to track and eliminate PFAS from products.

Tiers: 2-4

Sustainable Products (ESPR & DPP)

Requires Product & Material Data, Recycled Content, Chemical Compliance, Energy & Water Use, and Circularity to meet sustainability requirements.

Tiers: TBD (Likely Tiers 1-3)

Regulatory Coverage by Required Data

Deforestation (Lacey Act & EUDR)

Requires Deforestation & Legal Harvesting Compliance, Chain of Custody Tracking, and Geolocation Data to verify legal harvesting and deforestation-free sourcing.

Tiers: 3-4

Chemicals Management (REACH & Proposition 65)

Requires Chemical & Environmental Compliance, Product & Material Data, and Traceability to regulate hazardous substances and consumer safety.

Tiers: 2-4





Regulatory Coverage by Required Data

Plastics Reporting (Canada)

Requires Product & Material Data, Recycled Content, and Circularity Compliance to track plastic usage and improve recyclability.

Tiers: 1-2

Extended Producer Responsibility – Packaging (OR, CO, CA, MN, MD, ME)

Mandates End-of-Life & Circularity Data, Packaging & Material Data, to ensure companies take responsibility for product disposal.

Tiers: 1-2



Takeaways and Resources

Key takeaways

- Identify your Tiers
- Perform gap analysis
- Assess regulatory exposure and timeline
- Identify highest risk materials, locations and regulations
- Map supply chain
- Understand chain of custody
- Organize data


Start now. Start deliberately. But start!



SIA Resources!

- <https://members.snowsports.org/compliance-and-sustainability/>
- Critical deadlines list
- Compliance checklist
- Global compliance tracker
- Compliance Alliance
 - Newsletters
 - Webinars
- Downloadable resources

Compliance Checklist : Sheet1

SIA  Compliance Checklist Helping You Prioritize the Most Urgent C			
Issue	SIA Members Impacted	Description	Details
EPR/Packaging	All	Oregon	All companies must register with CAA now Reporting deadline: March 31, 2025 Program begins July 1, 2025 Payment due: December 31, 2025
EPA/TSCA Reporting	Supplier	All	EPA is requiring any person that manufactures (including im (including imported) PFAS or PFAS-containing articles in any 2011 to December 31, 2022 to electronically report informati production volumes, disposal, exposures, and hazards. You process of gathering data for these products now.
PFAS/Certificate of Compliance	All	New York & California Certificate Of Compliance	The states of NY & CA require manufacturers to provide reta product for sale or distribution in the state with a certificate o the textile article is in compliance with the provisions and doe regulated PFAS. Compliance certifications should be mainta

Sheet1

Global Compliance Tracker.xlsx

SIA  Global Compliance Tracker			
Snowsport Industries America, Inc. (SIA) neither warrants nor guarantees accuracy of the information contained herein. Users of this document must confirm the accuracy of its contents. SIA hereby disclaims any and all liab information contained herein, and all persons or entities using this docum agree to waive, release, defend and indemnify SIA against any and all cla may arise out of or relate to the use of this document.*			
US PFAS Regulations			
State	Effective Date	Products/Item	Details
California	2025	Textile articles: textile (any item made in whole or part from a natural, manmade, or synthetic fiber, yarn, or fabric, and includes, but is not limited to, leather, cotton, silk, jute, hemp, wool, viscose, nylon, or polyester) goods of a type customarily and ordinarily used in households and businesses, and include, but are not limited to, apparel, accessories, handbags, backpacks, draperies, shower curtains, furnishings, upholstery, beddings, towels, napkins, and tablecloths;	Ban on all new apparel products containing PFAS in the state, with a PFAS threshold greater than 100 ppm. This does not include used products. Bill AB 1817 bans PFAS in most clothing (including outdoor apparel) and textiles starting on January 1, 2025. Exemption until 2028 for outdoor apparel for severe wet conditions but must include "Made with PFAS chemicals" label starting January 1, 2025 (including online), (50 ppm)
California	2025	Certificate of Compliance/Textile Products	The state of California require manufacturers to provide retailers that offer the product for sale or distribution in the state with a certificate of compliance stating that the textile article is in compliance with the provisions and does not contain any regulated PFAS. Compliance certifications should be maintained on-site where new apparel and/or outdoor apparel for severe wet conditions is being sold or offered for sale.

US/Canada PFAS EU Regs US Tariffs Forced Labor EPR Other Compliance

Resources



Tools and support

- Worldly/ Higg/ Cascale
 - <https://worldly.io/>
 - <https://cascale.org/>
- Open Supply Hub
 - <https://opensupplyhub.org/>
- Textile Exchange
 - <https://textileexchange.org/>
- AFIRM
 - <https://afirm-group.com/>



Q&A

Thank you!

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