



Driving sustainability

in Automotive supply chains



The Automotive industry is changing faster than ever before. Automakers are racing to bring innovations to market, from electric cars that travel long distances to autonomous vehicles. But the sourcing of many materials used poses environmental and social sustainability issues, at a time when consumers are demanding greater transparency.

Bureau Veritas has developed an approach to help manufacturers address these issues and achieve compliance. Circular+ enables automakers to source sustainably, increase efficiency and move towards a circular economy business model that employs reused, recycled and recyclable materials.



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Towards a responsible sourcing model

The raw materials used in cars pose major social and environmental risks

Aluminum

USE: RADIATORS, CYLINDER HEADS, WHEELS, BODY PANELS



Processing and smelting to produce aluminum uses large amounts of energy and water, and results in substantial carbon emissions.

Iron & Steel

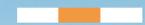
USE: BODY STRUCTURE, EXHAUST SILENCERS, CATALYTIC CONVERTERS



Iron and steel production is a major source of water and air pollution, accounting for around 5% of human CO2 emissions.

Copper

USE: SYSTEMS WITH ELECTRONIC COMPONENTS (E.G. BRAKES, GEARBOXES, ECUS)



Environmental impacts of copper mining include deforestation, land degradation, water pollution and local ecosystem destruction.

Cobalt

USE: BATTERIES



Cobalt supply chains are notoriously linked to human rights abuses including child labor and forced labor (see overleaf).

Zinc

USE: ELECTRO-GALVANIZING, CORROSION PROTECTION, TIRES



Zinc production is energy-intensive, resulting in carbon emissions and heavy metal residue that contaminates the food chain.

Mica

USE: CAR PAINTS, PLASTIC COMPOSITES, ELECTRONIC CAPACITORS



Nearly 25% of the world's mica is sourced from mining operations in India where over 22,000 children are forced to work.

Leather

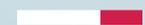
USE: CAR SEATS AND INTERIORS



Raising animals for leather is highly resource-intensive and generates significant greenhouse gas emissions.

Natural rubber

USE: TIRES, WIPER BLADES, SEALS, BELTS



Natural rubber processing generates effluents that pollute surface water, leading to eutrophication and "dead zones."

Plastic

USE: BUMPERS, BODY AND INTERIOR PARTS, DASHBOARDS, PART HOLDERS



Plastics come from fossil fuels and their manufacture is energy-intensive. Production results in toxic emissions, including VOCs.

RISK LEVEL:

MEDIUM

HIGH

Using certification to address supply chain risks



ENVIRONMENTAL

OEMs aim to take a proactive approach to environmental management, address impacts throughout the supply chain and meet standards for design, development, distribution, use, disposal or recycling.

- Environmental and resource management: ISO 14001 EMS, ISO 50001 EnMS,
- Responsible Mineral Initiative (RMI: RMAP) / Responsible Business Alliance (RBA: VAP),
- Greenhouse gas emissions: voluntary ISO 14064 declarations and mandatory emissions reporting
- Water quality and consumption: ISO 14046 water footprinting
- Recycling/ reuse: REACH, ROHS, WEEE testing and assurance
- Pollution and use of chemicals: RCMS, RC 14001



SOCIAL

A key issue for manufacturers is how to avoid the use of child labor and illegal or unethical practices relating to wages, benefits and working conditions in the mining of metals and minerals used in vehicle components. Companies also aim to adopt good health and safety practices throughout the supply chain.

- Ethical working conditions / responsible sourcing: SEDEX (SMETA), SA8000
- Occupational health & safety: ISO 45001 OHSMS (OHSAS 18001)



ETHICS & TRANSPARENCY

Integrity and transparency are crucial to maintaining reputation. Companies are expected to operate honestly throughout the supply chain in accordance with local laws and international standards.

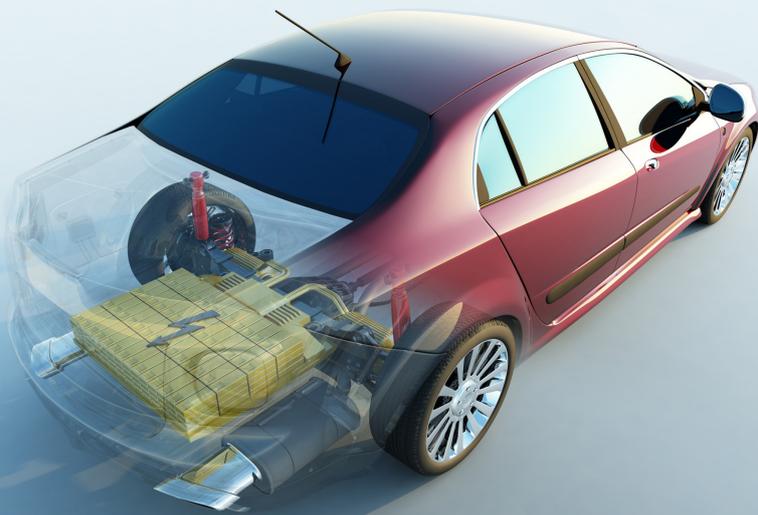
- Anti-bribery: ISO 37001
- Counterfeit parts: ISO 9001, IATF 16949
- Data Protection: Bureau Veritas Certification Scheme
- Assurance of Sustainability Reports (e.g.: GRI)



SPECIFIC MATERIALS RISKS

Certification schemes exist for high-risk materials, or those that are frequently used or recycled.

- Aluminum: ASI's certification program aims to ensure sustainability and human rights principles are embedded in production, use and recycling
- Precious metals: LBMA's Responsible Sourcing program covers the platinum used in catalytic converters



High demand, high risk: Electric vehicle batteries

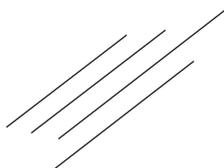
Consumers and governments alike are embracing EVs as a sustainable alternative to vehicles running on fossil fuels. But EVs come with major sustainability risks attached.

One of the main raw materials in lithium-ion batteries is cobalt, sourced principally in the Democratic Republic of Congo. The mining of cobalt in the DRC has been linked to child labor, bribery and corruption. EV manufacturers find it impossible to know what happens in their upstream supply chain as smelting and EV cell manufacturing take place in Asia (notably in China, the world leader), with no system in place to track individual batches of minerals back through the supply chain.

A second key material in lithium-ion batteries is graphite. Graphite dust from mining operations is contributing to severe air and water pollution in northeastern China, the world's leading source of the mineral, with health consequences for local populations.

An additional issue is recycling batteries, which is costly and makes intensive use of polluting chemicals. A more effective solution today is the reuse of EV batteries to meet the energy storage needs of communities in developing countries.

Bureau Veritas offers a range of services to help automotive manufacturers improve sustainability in EV supply chains, from supply chain audits to environmental management system certification.



Focused on our clients, driven by society

Bureau Veritas is a Business to Business to Society company, contributing to transforming the world we live in. A world leader in testing, inspection and certification, we help clients across all industries address challenges in quality, health & safety, environmental protection, enterprise risk and social responsibility.

We act as a partner to Automotive industry transformation, helping OEMs and suppliers innovate and ensure that their products, assets and processes are safe and compliant.

A leader in environmental and social management system certification and audits, Bureau Veritas supports businesses worldwide to achieve continuous improvement and reach their sustainability goals for the benefit of society.

30

automotive hub countries

2,500

auditors for supply chain
risk certification services



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