



# Raw Materials Report

Mercedes-Benz







For Mercedes-Benz Group, respect for human rights is a fundamental component of responsible corporate governance. The goal is clear: we only want to supply products that are produced without violating human rights.

Therefore, we are committed to ensuring that human rights are respected and upheld by all of our Group companies as well as by our business partners and suppliers. We are also committed to the responsible procurement of production and non-production materials and services. In fact, we can only achieve more transparency and sustainability for our supply chains by working closely with our suppliers in order to achieve our goals.

Our [Principles of Social Responsibility and Human Rights](#) bind us to respecting internationally recognised human rights and to prevent, mitigate and as far as possible bring to an end adverse impacts on human rights in our business operations around the world.

Our Responsible Sourcing Standards define our requirements for suppliers in relation to working conditions as well as respecting and upholding internationally recognised human rights.

Some raw materials used in vehicle components are sourced and processed under circumstances that might be critical in relation to human rights. Against the background of the fundamental shift in the automotive industry towards electric vehicles, this becomes even more relevant because some of the raw materials used in their construction can be associated with increased risks to human rights. With our Mercedes-Benz Human Rights Respect System (HRRS) we have developed a due diligence approach to identify and avoid these risks and possible negative effects of our business activities on human rights early on.

<p><b>Al</b> Aluminium</p> <p><a href="#">↗ Page 04</a></p>	<p><b>Cr</b> Chromium</p>	<p><b>Co</b> Cobalt</p> <p><a href="#">↗ Page 07</a></p>	<p><b>Cu</b> Copper</p>	<p><b>C</b> Carbon</p>	<p><b>Fe</b> Iron</p>
<p> Leather</p>	<p><b>Li</b> Lithium</p> <p><a href="#">↗ Page 10</a></p>	<p><b>Mg</b> Magnesium</p>	<p><b>Mn</b> Manganese</p>	<p> Mica</p> <p><a href="#">↗ Page 13</a></p>	<p><b>Mo</b> Molybdenum</p>
<p><b>Ni</b> Nickel</p>	<p><b>Nb</b> Niobium</p>	<p><b>Pd</b> Palladium</p>	<p><b>Pt</b> Platinum</p>	<p> Rare Earth Elements</p>	<p><b>Rh</b> Rhodium</p>
<p> Rubber</p>	<p><b>Si</b> Silica sand &amp; Silicon</p>	<p><b>Ta</b> Tantalum</p>	<p><b>Sn</b> Tin</p> <p><a href="#">↗ Page 16</a></p>	<p><b>W</b> Tungsten</p> <p><a href="#">↗ Page 18</a></p>	<p><b>Zn</b> Zinc</p>


The 24 critical raw materials. For further information please click on the links above. Assessments of the remaining raw materials will be published in due course.

We have identified 24 raw materials that are critical to vehicle production and that also pose increased human rights risks.

To identify the materials we first analyzed the raw materials that are used in the components of an electric drive vehicle and drew on reference documents such as the US Department of Labor’s “List of goods produced by child labor or forced labor” or the report “Material Change. A Study of Risks and Opportunities for Collective Action in the Materials Supply Chains of the Automotive and Electronics Industries” from 2018, which identified the 50 most important materials used by the automotive and electronics industries.

The resulting raw materials were then prioritised against a number of criteria. These included the human rights and environmental risks in the countries where the raw materials are mined, the importance of the raw material in the transformation to electric mobility, the functional relevance of the raw material

in the essential components of electric vehicles as well as our level of influence through supply relationships.

Under the umbrella of the  **Human Rights Respect System (HRRS)**, Mercedes-Benz Group is conducting raw material assessments for the 24 raw materials. We are doing this by researching the respective raw material, its sourcing steps and the general associated risks. We then use this knowledge to identify the related main components used in our products and to initiate the raw material assessments, which consist of three steps:

1. Creating transparency along the raw material supply chains.
2. Identifying risk hot spots in the supply chains.
3. Defining and implementing risk mitigation measures and reviewing their effectiveness.




Appropriate measures vary according to the risks identified for each raw material and the leverage Mercedes-Benz Group has to prevent, mitigate or bring to an end the respective risks. Measures range from specific requirements for suppliers, for example a certification for the raw material used in components, to collaboration in respective initiatives, for example the Responsible Minerals Initiative, or fostering social projects, for example creating alternative livelihoods with Bon Pasteur in Congo.




The aim of Mercedes-Benz Group is to review 70 percent of the 24 raw materials identified as high-risk by 2025. By 2028, Mercedes-Benz Group intends to define appropriate measures for 100 percent of the 24 raw materials that pose an increased risk of human rights violations.



With this report, we are releasing the results of the first six raw material assessments. We will update the report on a regular basis as we complete assessments for each of the remaining raw materials.

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## Potential human rights risks

-  Business conduct in conflict-affected and high-risk areas (CAHRAs)
-  Child labour
-  Community and indigenous peoples’ rights

-  Environmental risks with impact on human rights
-  Insufficient due diligence processes at (sub-)suppliers
-  Modern slavery, including forced labour

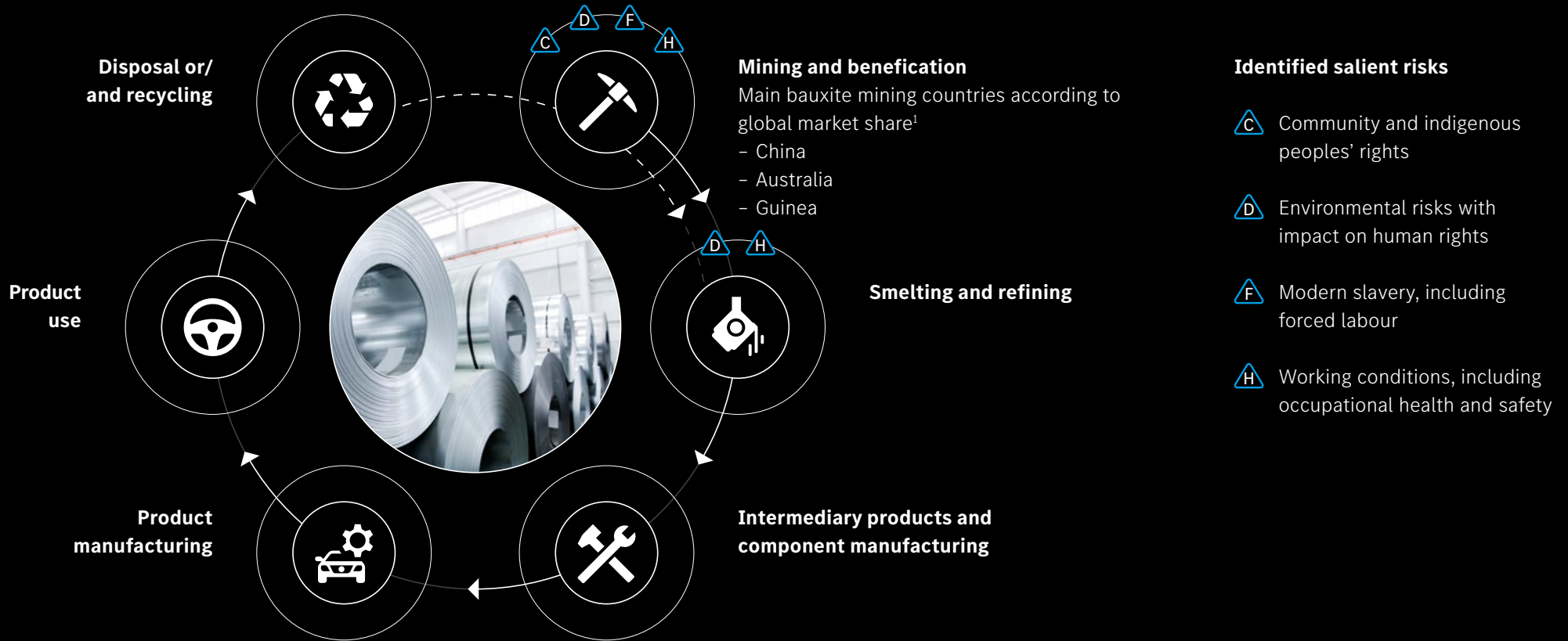
-  Violence by private and public security forces
-  Working conditions, including occupational health and safety

Potential human rights risks are categorised as above.

# Al Aluminium

Aluminium is the most abundant metal in the Earth's crust and is extracted from bauxite. It is increasingly replacing steel in vehicle manufacturing because its light weight can make a significant contribution to improving fuel efficiency and decreasing carbon emissions by reducing the overall vehicle weight.

## Raw material risks



→ cross-cutting stages: trading, transport, logistics and warehousing  
 - - - → Disposal or/and recycling skips mining and beneficiation to smelting and refining  
<sup>1</sup> Based on [United States Geological Survey \(2022\)](#)



## Mercedes-Benz supply chain

Known occurrences of aluminium in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Direct-sourced aluminium
- Wheels (rim)
- Battery case

### Supplier dialogue

- Dialogue with all tier-1 aluminium suppliers, selected tier-2 suppliers and three mining companies

### Findings

- Exchange about potential human rights violations in Guinea resulting from the impact of mining on the local population





### Stakeholder dialogue about raw material risks

- Exchanges with international NGO
- NGO confirms human rights risks resulting from the impact of mining
- Developing industry links for the purpose of joint learning, information sharing and focused exchange with rights holders' representatives
- NGO dialogue on prioritisation of risk areas

### Transparency


- Transparency at tier-1 component level
- Transparency on aluminium sourced directly from suppliers
- Critical nodes: mining

### Identified salient risks

-  Community and indigenous peoples' rights
-  Environmental risks with impact on human rights
-  Insufficient due diligence processes at (sub-)suppliers
-  Working conditions, including occupational health and safety

## Implemented measures

### Individual measures

- Making  [Aluminium Stewardship Initiative](#) certification an awarding prerequisite for primary aluminium used in stamping plants and foundries of Mercedes-Benz Group in Europe
- Dialogue and communication with senior management (management level 2) at direct suppliers to raise awareness of identified risks

### Collective measures

- Engagement with the Aluminium Stewardship Initiative

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## Results

- Future contract awards for the primary aluminium used in Mercedes-Benz stamping plants and foundries in Europe to only come from Aluminium Stewardship Initiative-certified sources (from mine to suppliers' gates)
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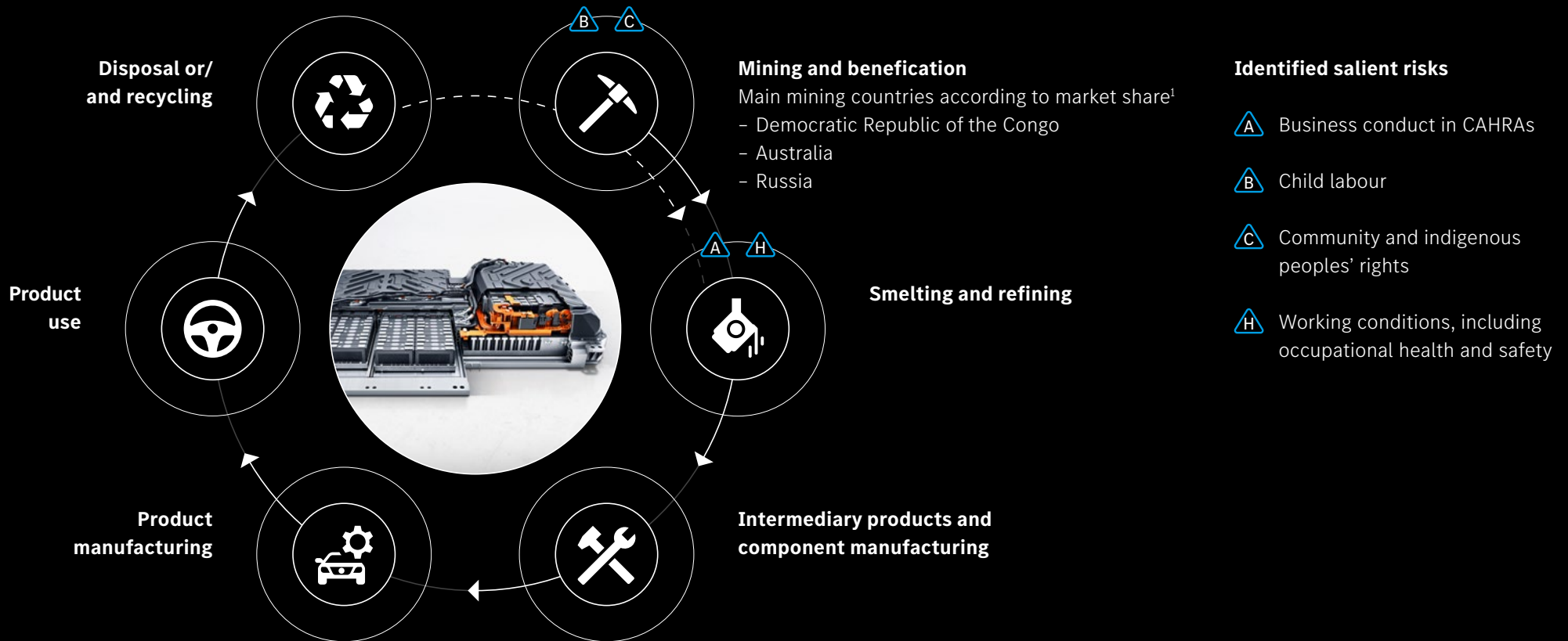
## ► Outlook

- Stronger engagement through targeted projects and participation in governance bodies of certification schemes to involve affected mining communities in auditing procedures
- Continuously strive to move towards a circular economy for aluminium through:
  - Aluminium Stewardship Initiative certification of Mercedes-Benz Group plants
  - Better sorting of scrap at the own production sites
  - Establishing a closed loop system with suppliers

# Co Cobalt

Cobalt plays an important role in the manufacture of electric vehicles because it is still an essential component in battery cells. It is therefore an important raw material in zero-emission mobility.

## Raw material risks



— — — — —> cross-cutting stages: trading, transport, logistics and warehousing  
 - - - - -> Disposal or/and recycling skips mining and beneficiation to smelting and refining  
<sup>1</sup> Based on [United States Geological Survey \(2022\)](#)



## Mercedes-Benz supply chain

Known occurrences of cobalt in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Battery cells

### Supplier dialogue

- Ongoing dialogue with tier-1 battery suppliers

### Findings

- Suppliers show awareness about increasing activities in relation to human rights' due diligence and the implementation of audits across their own supply chains

### Stakeholder dialogue about raw material risks

- Exchanges with NGOs
- NGOs confirm child labour and small-scale mining as the most salient risks

### Transparency

- Six tier levels from mine to OEM: mine - refinery - precursor - cathode - battery cell - OEM
- Largely transparent from tier-1 up to mine level
- Critical node: mine
- Primary sources: Democratic Republic of the Congo and South Africa

### Identified salient risks

- Child labour
- Community and indigenous peoples' rights
- Insufficient due diligence processes at (sub-)suppliers

## Implemented measures

### Individual Measures

- Contractual agreement with battery cell suppliers to purchase exclusively from cobalt sources audited with the **Initiative for Responsible Mining Assurance (IRMA)** in the future
- Long term third party auditing along the cobalt supply chain, including implementing and monitoring Corrective Action Plans
- Regular training of suppliers on appropriate measures for responsible sourcing
- Regular dialogue with mine operators

### Collective Measures

- Agreement of awarding requirements for battery cell suppliers:
  - Sourcing of cobalt from smelters that conform to the Responsible Minerals Assurance Process
  - Sourcing of battery raw materials from mines that have been audited by the Initiative for Responsible Mining Assurance and assessed as reaching at least IRMA 50 in its achievement system





## Results

- Third party auditing project with subsequent progress of human rights awareness and effective measures
  - Raising awareness of suppliers in relation to the importance of due diligence processes
  - Using internationally recognised standards, for example the Initiative for Responsible Mining Assurance and the Responsible Minerals Assurance Process
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## ► Outlook

- Continuing the third party auditing project
- Continuing local engagement through Bon Pasteur
- Sourcing of cobalt from mines that have been audited by the Initiative for Responsible Mining Assurance and assessed as reaching at least IRMA 50 in its achievement system three years after production starts
- Establishing direct sourcing activities for cobalt
- Continuous reduction of cobalt content in battery cells with the objective of dispensing with its use in battery cells while at the same time working with suppliers to increase the use of recyclates
- Building a new CO<sub>2</sub>-neutral recycling plant in Kuppenheim, Germany, and thereby increasing the recovery rate to more than 96 percent as an important milestone towards closing the material loop

# Li Lithium

Lithium is an essential component of the batteries used in electric vehicles. It is therefore an important raw material in zero-emission mobility.

## Raw material risks



→ cross-cutting stages: trading, transport, logistics and warehousing  
 - - - → Disposal or/and recycling skips mining and beneficiation to smelting and refining  
 1 Global market share 2015; Based on [Deutsche Rohstoffagentur](#)



## Mercedes-Benz supply chain

Known occurrences of lithium in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Battery cells

### Supplier dialogue

- Discussions with mine operators
- Initial approaches at mine operators to engage with community and indigenous peoples' representatives

### Findings

- Mine operators and civil society representatives differ in their understanding of the issues at stake
- In particular, there are substantial differences in their awareness of water issues
- Solutions are not always developed with holistic stakeholder engagement

### Stakeholder dialogue about raw material risks

- Discussions with NGOs have confirmed the risks, in particular in relation to threats to the rights of indigenous peoples linked to negative impacts on the environment in South America

### Transparency

- Relatively short, linear supply chains up to a maximum of five tiers:  
mine - refinery - precursor - cathode - battery cell
- Largely transparent up to mine level

### Identified salient risks

- Community and indigenous peoples' rights
- Environmental risks with impact on human rights

## Implemented measures

### Individual measures

- Regular dialogue with mine operators
- Partial third party auditing and monitoring along the lithium supply chain including Corrective Action Plans
- Contractual agreement with battery cell suppliers to purchase exclusively from [Initiative for Responsible Mining Assurance](#)-audited lithium sources in the future

### Collective measures

- Commissioning a study with other market participants to further understand the risks in Chile and develop an effective and targeted action plan
- Initiating a Responsible Lithium Partnership with several other companies, coordinated by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The aim of the initiative is to work towards responsible natural resource management, including lithium, in Chile's Salar de Atacama. The partnership

is intended to foster a dialogue among local stakeholders, generating and synthesising scientific facts and seeking collective solutions.



## Results

- The Responsible Lithium Partnership is still in its early stages. Results will initially be shared primarily with local stakeholders to maintain the sensitivity and independence of the information and strengthen trust in the project.
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## ► Outlook

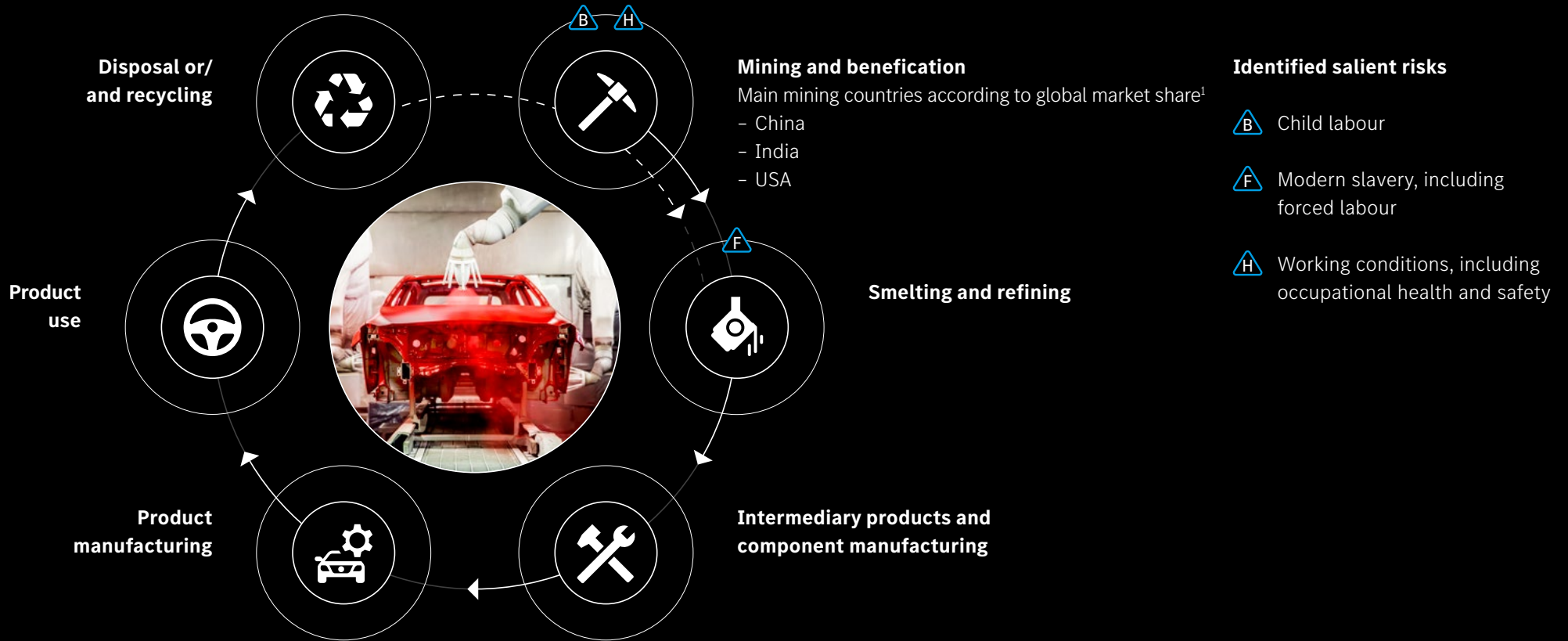
- Continuation of the GIZ-coordinated Responsible Lithium Partnership
- Commitment of suppliers to establishing Initiative for Responsible Mining Assurance certification processes for mine sites within designated timelines
- Evaluating opportunities for direct sourcing



# Mica

Mica is an important raw material in vehicle production. It is used to achieve the shimmering effect in paints. It is also a component in batteries.

## Raw material risks



→ cross-cutting stages: trading, transport, logistics and warehousing  
 - - - → Disposal or/and recycling skips mining and beneficiation to smelting and refining  
<sup>1</sup> Based on [Terre de Hommes/Somo \(2016\)](#)



## Mercedes-Benz supply chain

Known occurrences of mica in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Paints and coatings, including those used in door handles, steering wheels, wheels and axles

### Supplier dialogue

- Ongoing dialogue with various tier-1 and tier-2 painting and coating suppliers

### Stakeholder dialogue about raw material risks

- Mercedes-Benz is the first OEM member of the [Responsible Mica Initiative](#)
- Local engagement with Terre des Hommes in India to support children and their families

### Transparency

- Five or six tier levels from mine to OEM: mines - processors - exporters - intermediate manufacturers - end-product manufacturers - OEM
- Partial transparency up to mine level for painting suppliers

### Identified salient risks

- Insufficient due diligence processes at (sub-)suppliers
- Working conditions, including occupational health and safety

## Implemented measures

### Individual measures

- Supplier dialogue
- Audit of designated mines and processors in India including follow-up meetings with suppliers

### Collective measures

- Collective engagement with Terre des Hommes to strengthen local structures and develop future initiatives
- Mercedes-Benz supports the Responsible Mica Initiative and its aim of eliminating child labour and unacceptable working conditions in mica mines

- In 2021 the Responsible Mica Initiative and the [Responsible Minerals Initiative](#) published the [Global Workplace Standard for Mica Processors](#)
- The Responsible Mica Initiative and Tilkal have launched a blockchain-based solution for improving traceability across mica supply chains



## Results

- Defining Corrective Action Plans at audited mines
  - Continuous dialogue with suppliers to review the status quo
  - Engagement with Terre des Hommes regarding the creation of alternative livelihoods and improvement of access to education for children
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## ► Outlook

- Potential integration of Responsible Minerals Initiative's workplace standards for processors
- Potential continuation of social project with Terre des Hommes to enable children living near mica mines to attend school while at the same time providing alternative economic support to their families

# Sn Tin

Tin is a relatively rare metal which occurs naturally as a constituent of various minerals, in particular cassiterite. It is especially valued for its corrosion resistance, its malleability and its ductility.

## Raw material risks



→ cross-cutting stages: trading, transport, logistics and warehousing  
 - - - → Disposal or/and recycling skips mining and beneficiation to smelting and refining  
 1 Global market share 2021; Provided by Argus Media





## Mercedes-Benz supply chain

Known occurrences of tin in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Alloys
- Battery cells

### Supplier dialogue

- Dialogue with various suppliers

### Findings

- Suppliers show substantial progress in terms of due diligence awareness and traceability


### Stakeholder dialogue about raw material risks

- Exchanges with the  [Responsible Minerals Initiative](#)

### Transparency

- The standardised Conflict Minerals Reporting Template developed by the Responsible Minerals Initiative means there is transparency on the smelters used by most suppliers
- Critical nodes: mining

### Identified salient risks

-  Working conditions, including occupational health and safety

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## Implemented measures

### Individual measures

- Suppliers of products containing the conflict minerals tin, tantalum, tungsten and gold (known collectively as 3TG) contractually agree to:
  - only use smelters in their supply chain that conform to the Responsible Minerals Assurance Process of

the Responsible Minerals Initiative

- submit an annual Conflict Minerals Reporting Template
- remove smelters from their supply chain if they do not conform to the Responsible Minerals Assurance Process or have lost this status

### Collective measures

- Membership of the Responsible Minerals Initiative

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## Results

- Sourcing of tin from suppliers that conform to the Responsible Minerals Assurance Process

# w Tungsten

Tungsten is an important component in alloys and high-speed steels. Intermediary forms such as ferrotungsten are particularly valued for their hardness and resilience.

## Raw material risks



— — — — —> cross-cutting stages: trading, transport, logistics and warehousing  
 - - - - -> Disposal or/and recycling skips mining and beneficiation to smelting and refining  
<sup>1</sup> Based on [United States Geological Survey \(2022\)](#)



## Mercedes-Benz supply chain

Known occurrences of tungsten in the Mercedes-Benz AG supply chain and the risks associated with these occurrences.

### Focus parts/commodities

- Turbocharger housing
- Cutting tools

### Supplier dialogue

- Exchanges with tier-1 and tier-2 suppliers for ferrotungsten

### Findings

- Awareness and reliance on the Responsible Minerals Assurance Process of the [Responsible Minerals Initiative](#)
- Based on the identification of non-compliant smelters by the Responsible Minerals Assurance Process, there is limited engagement by suppliers with their supply chains
- Little knowledge about tier-n supply chain members due to the large number of traders and producers of intermediary products

### Stakeholder dialogue about raw material risks

- Dialogue with a diverse set of stakeholders around the issue of artisanal and small-scale mining production, including NGOs and international cooperation agencies present in Democratic Republic of the Congo and adjoining countries
- Artisanal and small-scale mining certification schemes for tin, tantalum, tungsten and gold (known collectively as 3TG) smelters

### Transparency

- The standardised Conflict Minerals Reporting Template developed by the Responsible Minerals Initiative means there is transparency on the smelters used by most suppliers
- Critical nodes: mining

### Identified salient risks

- Community and indigenous peoples' rights
- Environmental risks with impact on human rights
- Insufficient due diligence processes at (sub-)suppliers
- Modern slavery, including forced labour

# W

## ☰ Implemented measures

### Individual measures

- Suppliers providing products containing 3TG minerals contractually agree to:
  - only use smelters in their supply chain that conform to the Responsible Minerals Assurance Process
  - submit an annual Conflict Minerals Reporting Template

- remove smelters from their supply chain if they do not conform to the Responsible Minerals Assurance Process or have lost this status
- Initiation of an internal improvement process for scrap collection of cutting tools at Mercedes-Benz plants to increase the availability of secondary material

### Collective measures

- Membership of Responsible Minerals Initiative with a focus on the due diligence obligations of the supply chain in accordance with the Responsible Minerals Assurance Process.

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## 📈 Results

- Sourcing of tungsten from smelters compliant with the Responsible Minerals Assurance Process

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## ▶ Outlook

- Responsible artisanal and small-scale mining strategy in development

# Imprint

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## **Forward-looking statements**

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