



University of Antwerp  
IOB | Institute of  
Development Policy

# Mineral supply chains

## Regulation, risk, responsibility

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14 February 2023





# ALL THE METALS WE MINED

IN 2021

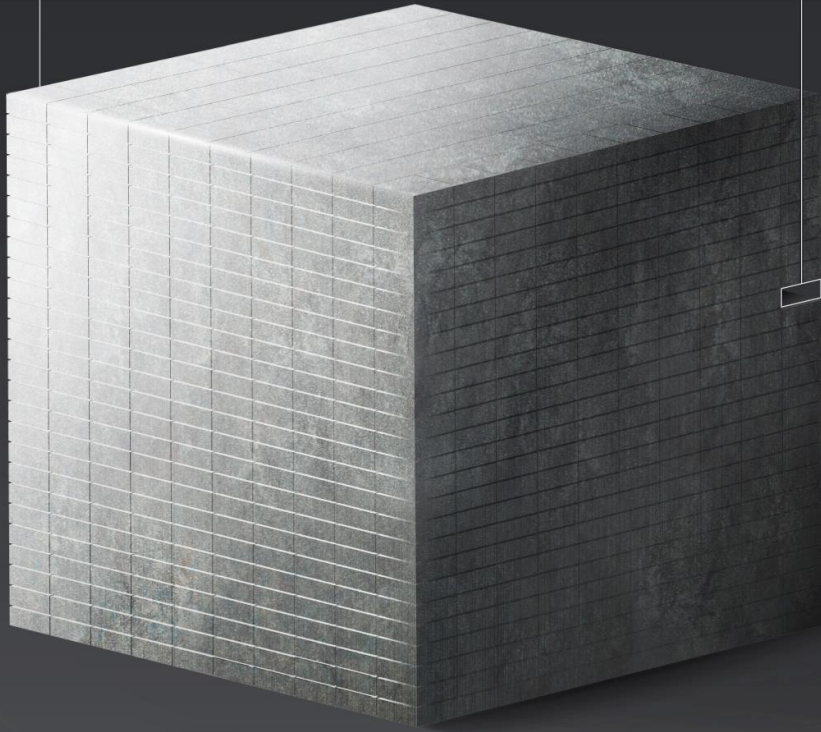
The world produced roughly **2.8 billion tonnes** of metals in 2021. Here are all the metals we mined, visualized on the same scale.

## IRON ORE

2,600,000,000 tonnes\*

= 1,000,000 tonnes

Iron Ore\*  
2.6B



## LARGEST END-USE



Steelmaking



Construction



Chemicals



Alloying Agents



Energy/Batteries



Magnets



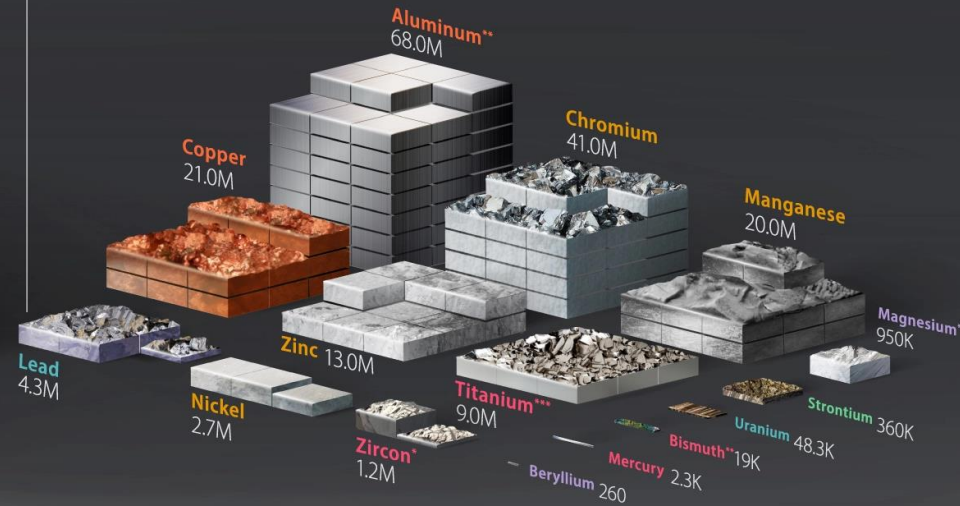
Electronics



Other

## INDUSTRIAL METALS

181,579,892 tonnes



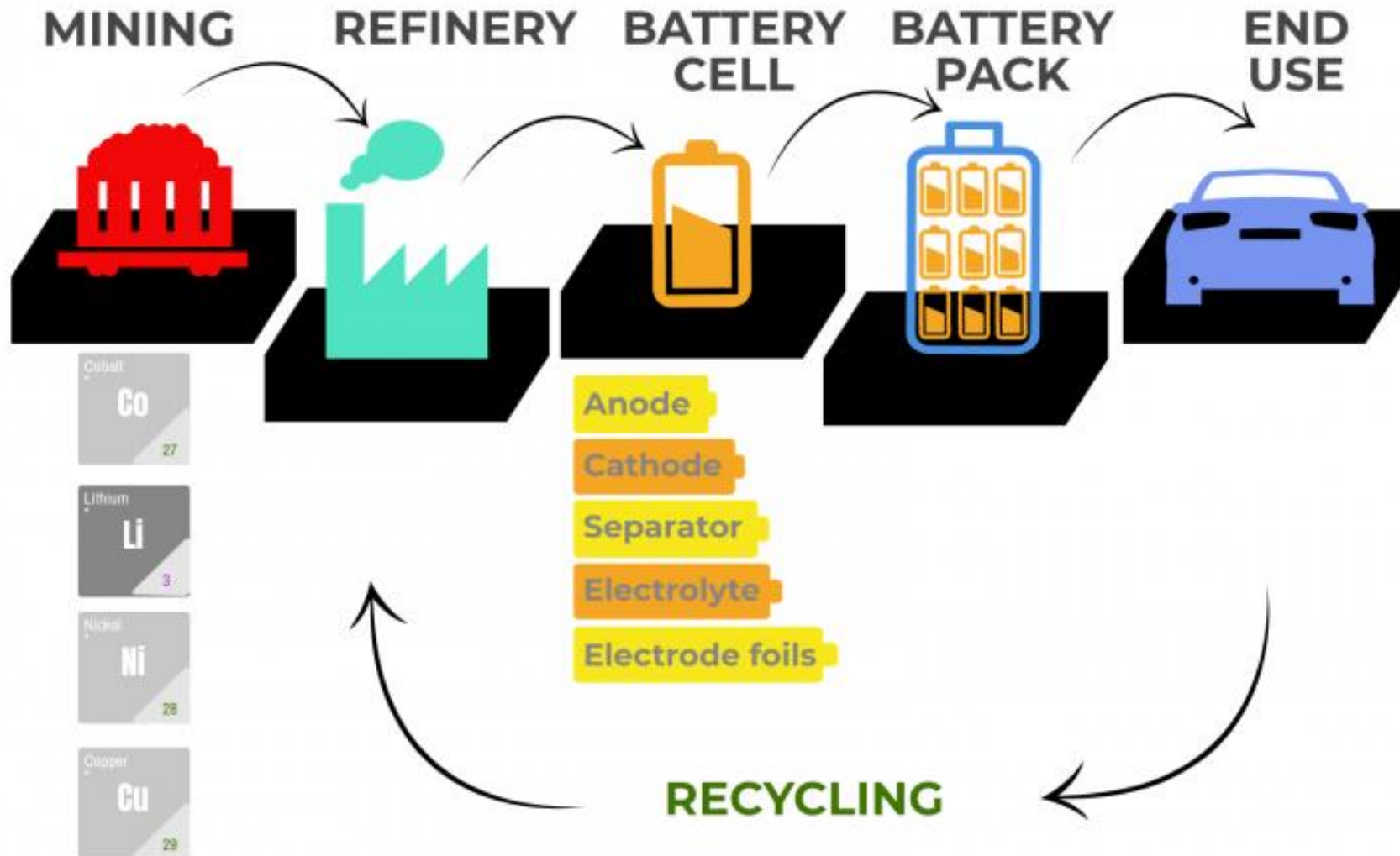
## TECHNOLOGY AND PRECIOUS METALS

1,474,889 tonnes



# BATTERY SUPPLY CHAIN

## lithium-ion battery



<https://www.industrialunion.org/report-due-diligence-across-the-battery-supply-chain>

# Social justice

## Fair distribution of benefits & costs

## Touchy subject

Distribution of value for an Apple iPad  
2010, % of total

### Profits:

Apple  
30

Other US  
2

South  
Korean  
7

Taiwanese  
2

Other  
6

### Costs:

Chinese labour  
2

Non-  
Chinese  
labour  
5

Cost of  
materials  
31

Distribution  
& retail  
15

Source: Personal Computing Industry Centre

<https://www.economist.com/finance-and-economics/2012/01/21/ipadded>



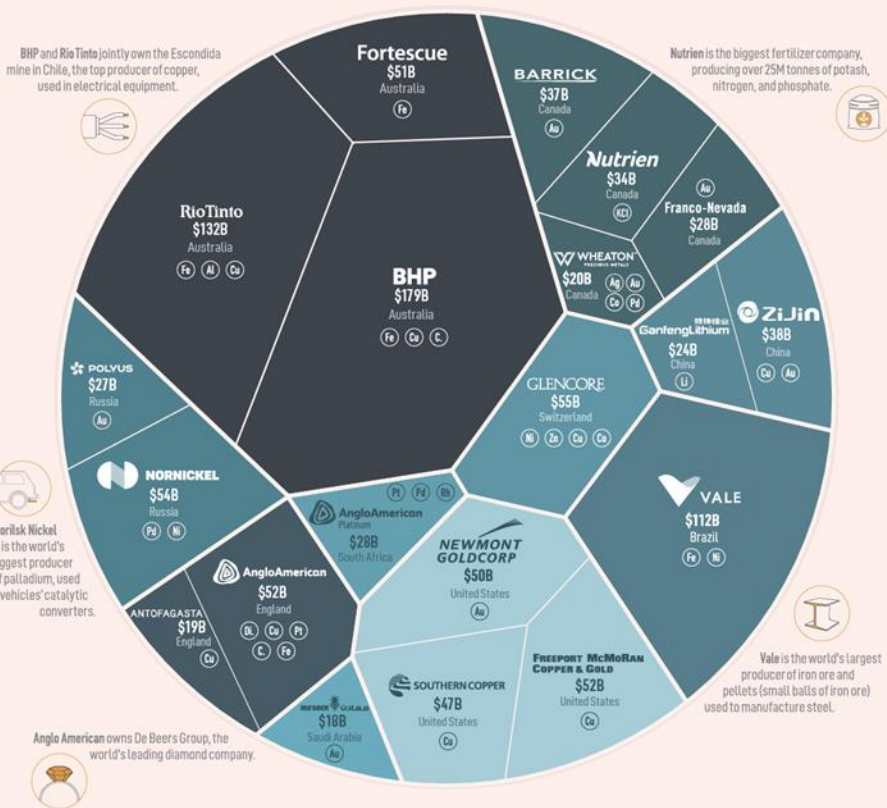


# THE TOP 20 MINING COMPANIES IN THE WORLD IN 2021

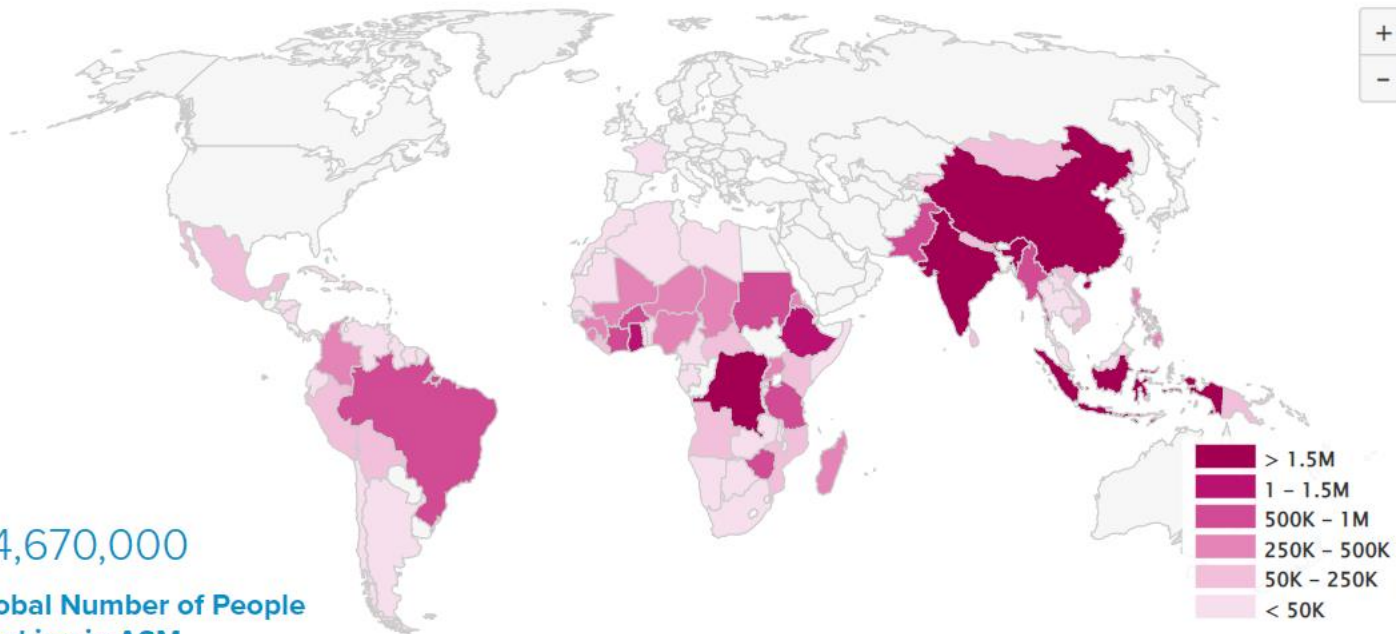
Mining is one of the few industries that emerged from the COVID-19 pandemic in excellent financial and operational shape and the forecast is even brighter.

In today's graphic, we show the world's biggest mining companies by market capitalization and their main mining activity.

## Main Mining Activity



Source: Yahoo Finance, Google Finance, company reports. Ranking excludes unlisted companies. Data as of June 22, 2021. All figures are in USD.



<https://delvedatabase.org/data>

<https://elements.visualcapitalist.com/the-biggest-mining-companies-in-the-world-in-2021/>

# Regulation



# Metaphor of the supply chain

Supply chain regulation = replacing “weak links”  
in the chain (Gibb, 2020)

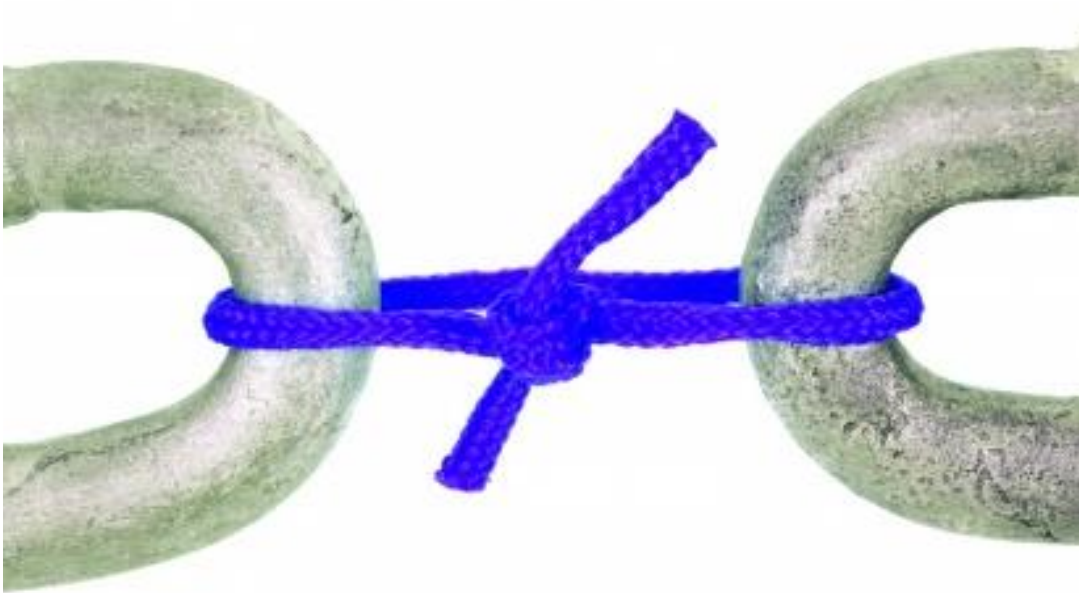




“Customers, consumers and governments hold companies accountable not only for their own actions, but for the actions of suppliers, vendors and business partners. **Remember, your organization is only as strong as its weakest link.** Being aware of the risks your organization faces – supply, supplier and price – and adopting a best-practice supply chain management process, building on an accountable, **risk-based approach**, will keep your organization out of trouble. It will also keep you on the right side of **regulators** whilst ensuring supply-chain **sustainability** and allowing you to move forward with confidence”

**Thomson Reuters blog, 2016**

**<https://blogs.thomsonreuters.com/answeron/the-weakest-link/>**



# Due diligence

**“An on-going, proactive and reactive process through which companies can ensure that they respect human rights and do not contribute to conflict” (...)** Through this process, **“companies can identify, prevent, mitigate and account for how they address their actual and potential adverse impacts as an integral part of business decision-making and risk management systems”.**  
**(OECD, 2016)**

# Risk

# “Annex II risks” (OECD, 2016)

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Serious abuses associated with the extraction, transport or trade of minerals

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Direct or indirect support to non-state armed groups

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Public or private security forces

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Bribery and fraudulent misrepresentation of the origin of minerals

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Money laundering

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Payment of taxes, fees and royalties due to governments

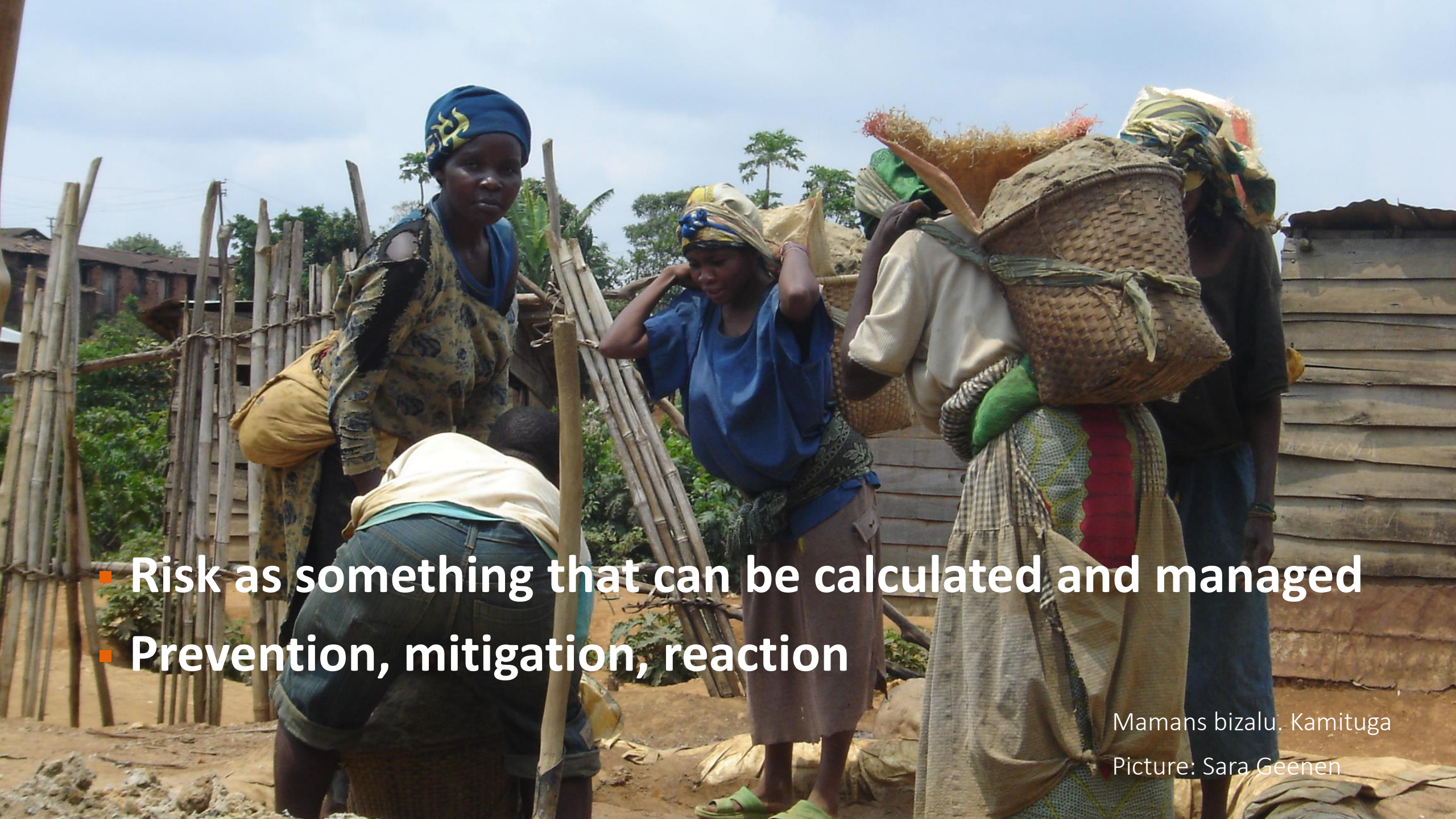
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# CONFLICT MINERALS, INC.

War, Profit and White  
Saviourism in Eastern Congo



CHRISTOPH N. VOGEL



- Risk as something that can be calculated and managed
- Prevention, mitigation, reaction

Mamans bizalu. Kamituga  
Picture: Sara Geenen

# Responsibility



## Responsible Sourcing Policies

Tesla, Inc. and its subsidiaries ("Tesla") requires our suppliers (defined as all companies or individuals from which Tesla is receiving goods and services as well as their personnel, agents and subcontractors) to conduct their worldwide operations in a responsible manner, consistent with Tesla's mission to accelerate the world's transition to sustainable energy and in adherence to this responsible materials policy and the principles enumerated herein in addition to the requirements in our Human Rights Policy and Supplier Code of Conduct. Tesla will work collaboratively with our suppliers to ensure diligent implementation of the requirements set forth herein and will verify and enforce compliance fairly and consistently when necessary.

## Legal And Regulatory Compliance

Tesla suppliers are responsible for ensuring that their operations and the products and services supplied to Tesla comply with all national as well as other applicable laws and regulations. This responsibility includes, but is not limited to, compliance with relevant laws governing bribery, corruption, and conflicts of interest.

When sourcing 3TG materials, Tesla expects suppliers to share our goal and implement steps to create a conflict-free supply chain. Where our suppliers source directly from smelters or refiners ("SoRs"), we require sourcing only from SoRs that have been validated as conflict-free by the Responsible Minerals Initiative's ("RMI") Responsible Minerals Assurance Process ("RMAP") or equivalent program. For our suppliers who do not source directly from an SoR, we expect them to engage with their own supply chain and require sourcing only from SoRs that are conformant to the RMAP. When we discover suppliers with non-conformant SoRs, Tesla requires these suppliers to transition to a fully conformant supply chains without delay. Suppliers may be requested to provide evidence or changes to their supply chain to provide the removal of non-conformant SoRs. Tesla recognizes the importance of mining to local communities and encourages ethical sourcing from the Democratic Republic of Congo (DRC). As recommended by the OECD, we do not support an embargo, implicit or explicit, of any DRC material, but instead allow sourcing from the region when it can be done in a responsible manner through audited value chains.





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# Thank you

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