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**Coltan mining in the Democratic Republic of
Congo (DRC):**
international business & the live of *creuseurs*
(artisanal diggers)



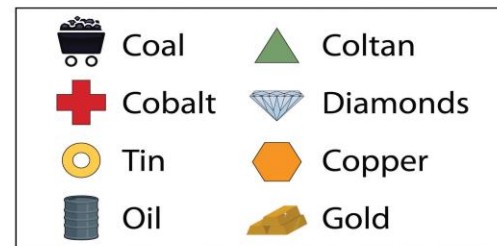
Overview of the Democratic Republic of Congo (DRC)



- The DRC is located in central Africa
- Superficy: 2 344 885 km²
- More than 450 ethnical Groups
- President: Felix Tshisekedi
- Capital: Kinshasa



DRC as resource-rich Country





Coltan

- Short for columbite-tantalites and known industrially as tantalite, coltan is an ore from which niobium and Tantalum are extracted
- Coltan was first discovered in 17th century
- Coltan is booming since the 90th.
- First discovered in DRC in 1910
- 23 mining sites in DRC (North and South Kivu)
- 300.000 workers (2009)





Kivu: richest region with coltan reserves

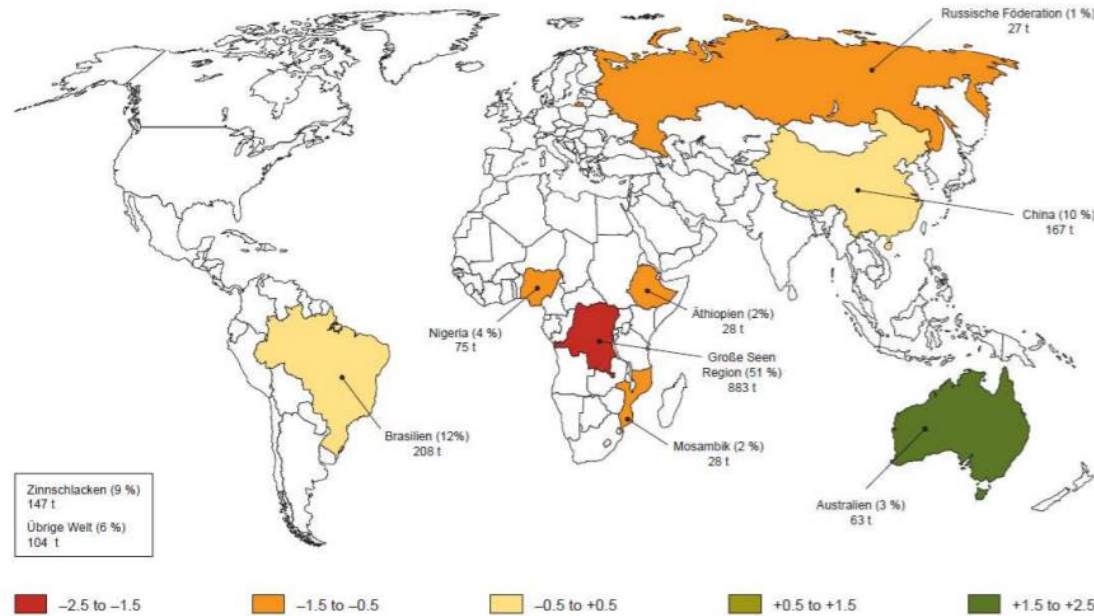




Countries with the highest reserves of coltan

Gewichtetes Länderrisiko (GLR) der Bergwerksförderung 2016

Weltbergwerksproduktion Tantal 2016 [in t Tantal-Inh.]
Anteil der 3 größten Förderregionen: 1.258 t (ca. 73 %)



GLR 2016:
- 0,69



1995: 1,3

2005: 0,66



The main producing countries

reconstruction was targeted for completion in 2016. A flotation plant expansion, designed to increase production capacity of niobium and tantalum alloy at Pitinga to 4,400 tons per year, was also expected to be in operation by the end of 2016.

World Mine Production and Reserves:

	Mine production		Reserves ⁸
	2015	2016 ^e	
United States	—	—	—
Australia	NA	NA	⁹ 69,000
Brazil	115	115	36,000
China	60	60	NA
Congo (Kinshasa)	350	450	NA
Rwanda	410	300	NA
Other	117	140	NA
World total (rounded)	1,100	1,100	>100,000

World Resources: Identified resources of tantalum, most of which are in Australia, Brazil, and Canada, are considered adequate to meet projected needs. The United States has about 1,500 tons of tantalum resources in identified deposits, most of which are considered uneconomic at 2016 prices.

Substitutes: The following materials can be substituted for tantalum, but usually with less effectiveness: niobium in carbides; aluminum and ceramics in electronic capacitors; glass, niobium, platinum, titanium, and zirconium in corrosion-resistant applications; and hafnium, iridium, molybdenum, niobium, rhenium, and tungsten in high-temperature applications.



The main concerns managing the foundries for the extraction of tantalum

- Cabot Corporation (USA)
- HC Starck (Deutschland)
- Ningxia Corporation (China)



Utility of coltan



- Aircraft construction
- Prostheses
- Computer industry
- production of capacitors for mobile phones

The main producer of capacitor

- AVX Corporation (Kyocera-Gruppe, Japan)
- Kemet „die Kapazität“ Firma (USA)
- NEC (Japan)
- Samsung (Südkorea)
- Vishay (USA)



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An illustration of the extraction of raw materials



Social consequences of coltan mining

- The financing of the civil war since 2012
- Work without any protective clothing
- Low wages (Adults and Children)
- Child labour
- People are exposed to the radioactivity of tantalum ores



source: Deutsche Welle



victim of sexual abusement



- People are exposed to the radioactivity of tantalum ores
- existing strong link between hard-working with mining chemical and fetal abnormalities in their children

Ecological consequences of coltan mining

- Deforestation of the rainforests
- Destruction of farmland
- Destruction of the natural habitats of the flora and fauna



source: Weltspiegel



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Way out of this situation

Snapshots of the key changes introduced by the new mining code (2018)

Royalties and Taxes: Article 285

Democratic Republic of Congo's new mining code was signed into law by president Joseph Kabila on 9 March 2018

- 10% of royalty payment is to a fund dedicated to future generation
- 0.3 per cent of turn-over development projects for communities affected by the mine's activities



- Waiving the purchase of new smartphones
- Better cooperation between governments (DRC, Rwanda, Uganda etc) rebels and international companies.
- Global tech companies must do more to clean up the supply of mineral resources



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