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The Circular Economy as Mechanism for Resilience in the Jewelry Industry

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The jewellery industry was confronted in 2022 with big challenges because of a lack of transparency and traceability as well as loopholes in the industry's sustainable mechanisms. The response of unprecedented financial sanctions against Russia (after invading Ukraine) prevents it from accessing most of its assets. Russia turned to liquidate its 2,300 metric tons of gold and 650 million carats of diamond reserves, among other precious minerals. The jewellery industry accounts for a 36.8% share of global gold demand. Russia is the third largest producer of gold and the largest extractor of diamonds globally. Many companies stopped doing business with Russia and closed retail stores (BOF 03/2022) to avoid supporting and financing the war. The jewellery industry is susceptible to exploitation if the Russian government uses gold supply chains as a tool to evade sanctions and subsidize their military aggression against Ukraine. The US, European Union, and many private and publicly traded jewellery companies restricted purchasing precious minerals from partly Russian governmentally owned companies (like Alrosa) to cut ties with the war (CNN, 06/2022). Tracing materials to a particular location or even a country in a global supply chain, is extremely difficult. Can these issues be avoided by using the circular economy concept jewellery? The jewellery industry is using precious and semi-precious minerals that can be easily recycled, cannot decay over time, and have high economical value. A McKinsey report (2020) estimates around 190,000 tons of gold held above ground, but only 1-2% of jewellery annual stocks are repurposed (Hewitt et al., 2015). Despite the above-ground stocks, 4,000-4,500 tons of gold are mined annually (Callaway et al., 2020). Theoretically, above-ground stocks can fill gold demand without newly mined gold. According to a study by Kering EP&L (2021), the majority of supply chain impacts come from sourcing and manufacturing, representing 79% of the total environmental impacts. By skipping the extraction and processing of minerals many resources can be saved. Every ton of mined gold creates 38,100 tons of CO2 emissions, compared to recycled gold generating 190 tons (Usapein and Tongcumpou, 2016; World Gold Council, 2018). According to a report commissioned by the Natural Diamond Council (2019), diamond mining emits an average of 160 kilograms of CO2 per 1 carat of a polished diamond. Greater than the production emissions of MacBook Air, Levi's jeans, and yearly Nespresso pods consumption. Jewellery is grounded in the Technosphere, designed by humans to expand the range of new materials and products. Technosphere materials can only be repurposed using designed separation as part of the whole product's journey. Today's products are made from a complex mix of materials, which prevents material separation for recycling without excessive human intervention (EEA, 2019). In this proceeding new links and strategies will be discussed, addressing material separation practices using better regulations and the reassurance mechanism of recycled precious minerals. That way conflict-associated minerals can be eradicated from the global jewellery industry.