

Mining as a response to criticality in the supply chain

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Webinar “Live” on-line at Zoom link:

<https://unipd.zoom.us/j/82978693795?pwd=TmIBSDBVRFVNL3NwTUUpGSW8rWFdpQT09>

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A climate of increasing costs from large deposits at decreasing grade, the environmental impacts of global transport networks, and societal pressures necessitate a new relationship between raw material production, the manufacturing value chain and society. Feedstocks for manufacturing, and thereby society, can be at critical risk of short supply where the rate of change in raw materials production cannot respond to the rate of change in demand. Real or perceived risk causes price volatility even when metals are geologically available, such that the economic viability of ore deposits fluctuates. Critical metals are largely produced either as by-products of bulk metal extraction/smelting or as the primary commodity in mines. Mining of critical metals operates in a paradigm established for production of bulk metals using the economies of scale, such that the geographical concentration of production creates a feedback loop of criticality. Commodity price volatility and positive externalities may create space in the market for small-scale conventional mining with technological solutions that increase competitiveness. The IMP@CT (H2020 grant No. 730411, 2016-2020) consortium worked to reduce criticality in the supply chain by developing capacity readiness in the mining industry using adaptable mining and processing methods suitable for technology and other metals production.

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