

Facts and Figures on Critical Minerals : Key messages

1. This year we have added 2 new KPIs in our Criticality assessment: Downstream Dependency and Share of By Product (on top of Known reserves, Uncertainty of supply, Political exposure of supply, Recycling potential, Uncertainty of demand, Vulnerability on core applications, Environmental performance and Social Acceptance).
2. We have also added 3 elements to our assessment: Fluorine, Sodium and Cadmium.
3. The increase in Defense focus, the AI/Data Centers boom and the fast changing international trade rules are bringing new constraints and we have 10 red elements this year of which 3 are new (underlined): Copper, Dysprosium, Gallium, Germanium, Graphite, Neodymium, Praesidium, Tungsten, Yttrium
4. Key actions to enable "More Materials" are as never before: Developing new technologies (substitution battery chemistries, low water or energy usage, recovery of mining waste ...), commissioning new capacities (brand new or retrofitted thanks to efficient regulation and permitting) and growing the skilled workforce (expanding the number of students in our Schools of Geology/Mines and attracting great people from other industries, other age groups... and of course women!)
5. Reaching a proper environmental footprint for the entire supply chain will not only mean building cleaner capacity for the more critical materials needed (e.g. Copper) but also lowering the environmental footprint of existing capacity for some high volume commodities (e.g. Low CO2 Aluminum, Cement and Steel will be key)
6. Altogether the mining world has moved faster than ever over the past 12 months mostly due to the increasing requirements of Defense related industries - US Government investing in MP Materials and in USA Rare Earth, MP Materials partnering with Maaden for investment in rare earth refining units, USA Rare Earth acquiring SerraVerde in Brazil and investing in Carester in France, Anglo American and Tech mega merger on copper, China restricting exports of germanium, gallium and rare earth... Maybe we should learn from these Defense driven moves to act faster on our other priorities such as Energy and AI?
7. To conclude, one example of start up/innovation and team/capabilities that could high have impact in case of fast implementation: this is the technology developed by Found Industries and the impact it can have on the supply of gallium (as a by product of aluminum) and germanium (as a by product of zinc).