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Monthly Executive Briefing

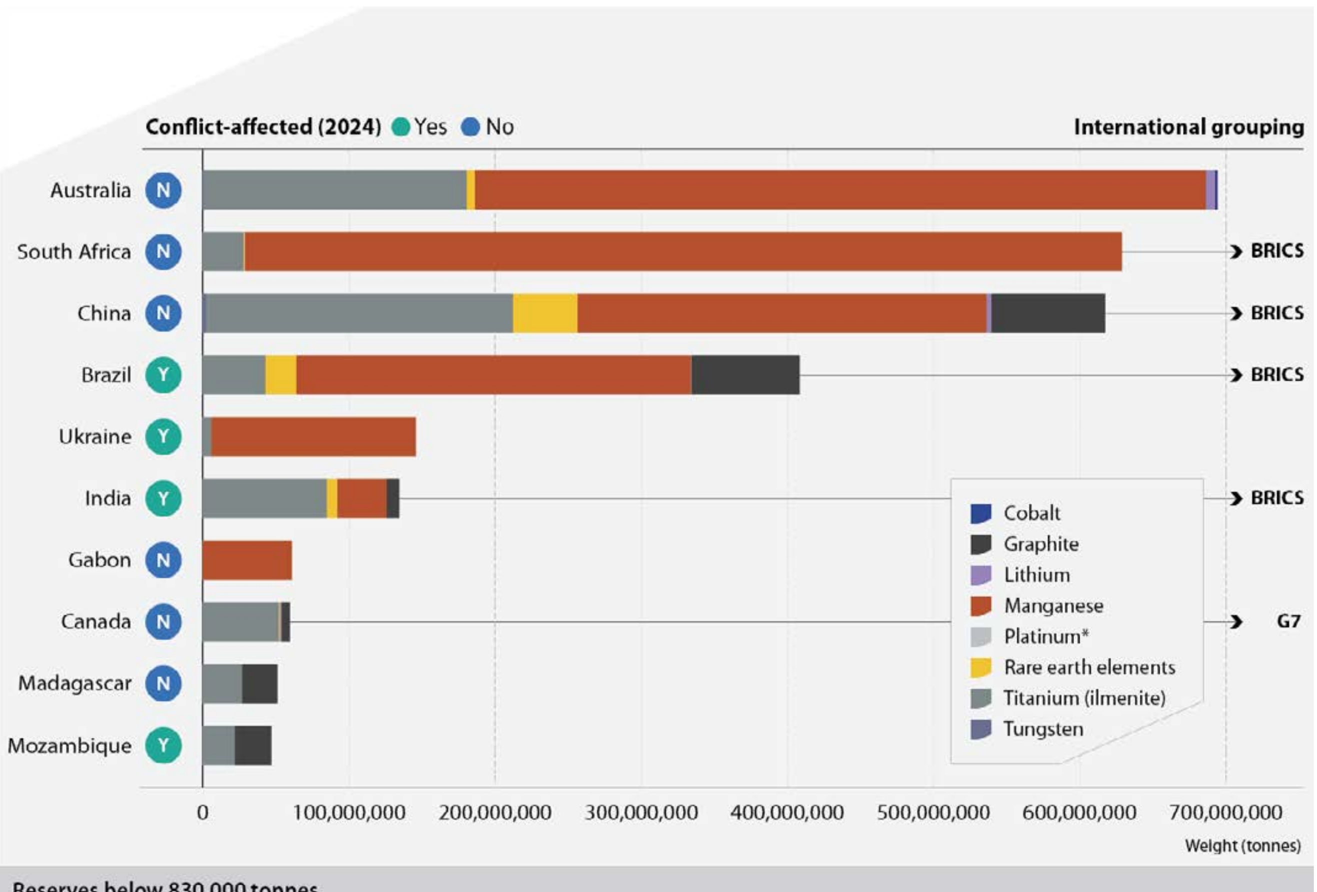
Strategic technology at risk: Europe and the race for critical raw materials

Europe's supply chain of critical raw materials – essential to green, digital, defence and aerospace technologies – increasingly faces risks from armed conflict, geopolitical misalignment and the 'weaponisation' of trade policies.

- The European Union and other large economies have published separate – but overlapping – lists of critical raw materials and minerals. In addition, the EU and NATO have released more focused lists of strategic and defence-critical raw materials.
- The geographical locations of reserves and processing facilities expose supply chains to disruption from armed conflict and geopolitical misalignment. Resource-poor and relatively weak militarily, the EU stands to lose from the increasing 'weaponisation' of trade policies and the global competition between an increasingly protectionist United States and China.
- Europe needs sustained policies and economic investment to ensure supply-chain resilience; despite various initiatives, these efforts alone are insufficient amid rising geopolitical tensions and institutional limitations.

Join industry leaders, policymakers, and security experts at the Global Security and Innovation Summit to explore solutions, strengthen partnerships, and shape the future of critical infrastructure security.

Top ten countries by weight of selected NATO defence-critical raw-material reserves, 2023



Reserves below 830,000 tonnes
Australia Tungsten: 570,000 tonnes | **South Africa** Rare earth elements: 790,000 tonnes, Platinum*: 63,000 tonnes | **China** Cobalt: 140,000 tonnes | **Brazil** Lithium: 390,000 tonnes | **Canada** Cobalt: 230,000 tonnes, Lithium: 930,000 tonnes, Platinum*: 310 tonnes, Rare earth elements: 830,000 tonnes | **Madagascar** Cobalt: 100,000 tonnes

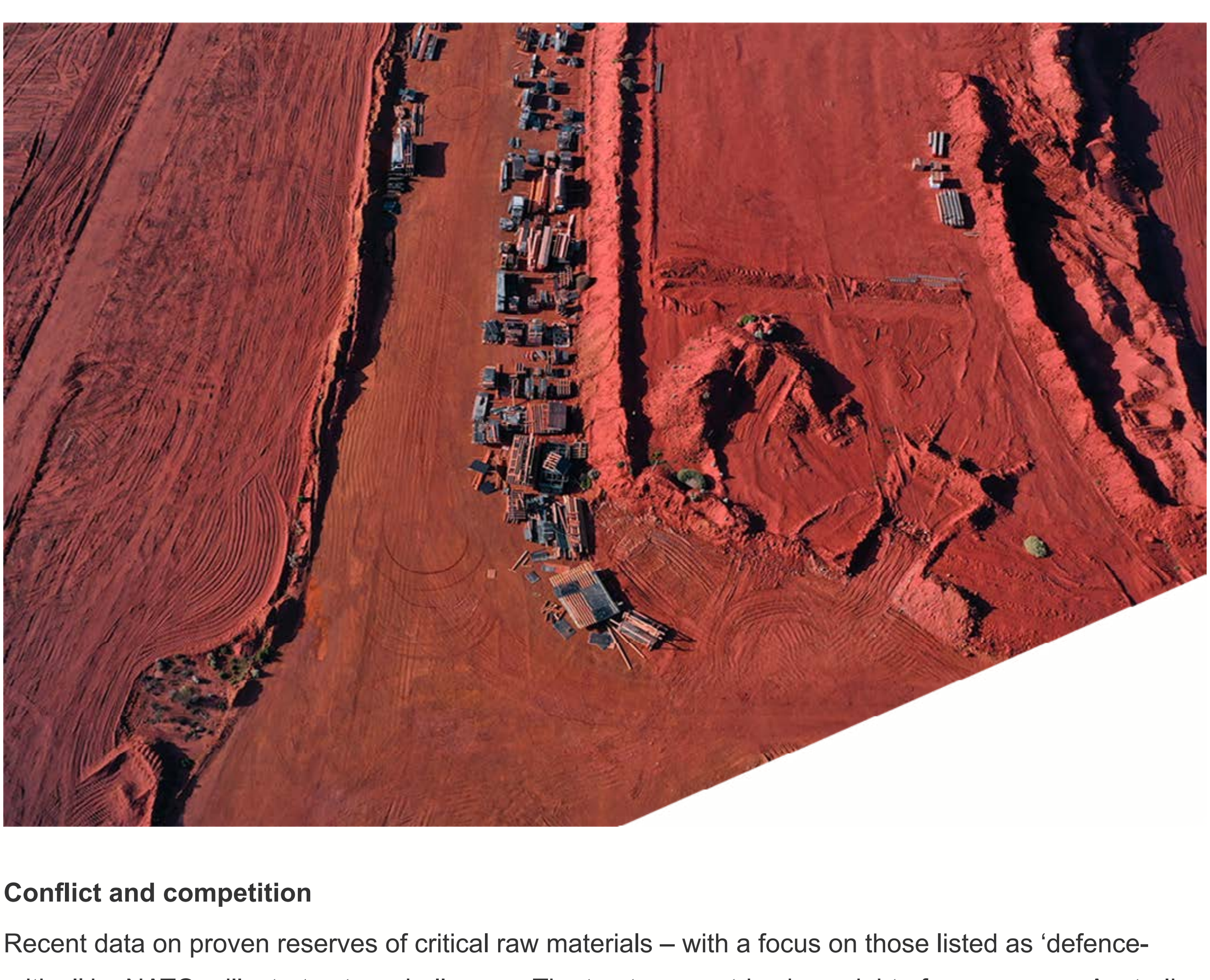
*Plus other platinum metals.
Notes: Selection of NATO defence-critical raw materials is based on available data in the source. Reserves are resources that have been evaluated and can be mined economically with current technologies. Data on platinum and other platinum metals and titanium (ilmenite) from the United States Geological Survey (accessed via Our World in Data) is used in place of platinum and titanium respectively from NATO's list of defence-critical raw materials. There is no 2023 data available for cobalt reserves in China in the source. Therefore, 2022 data is used in this instance. A country's designation as 'conflict-affected' is based on an analysis of the calendar year 2024, which will inform the forthcoming *Armed Conflict Survey* 2025.
Sources: IISS analysis; NATO; Armed Conflict Location & Event Data Project (ACLED); United States Geological Survey; Our World in Data ©IISS

Fragmented lists, shared dependencies

In March 2023, the European Commission published its fifth list of 34 'critical raw materials' as part of its proposed – and now adopted – Critical Raw Materials Act (CRMA). These materials are both economically vital and highly vulnerable to supply-chain disruptions. Major economies – including Australia, Canada, India, Japan, South Korea, the United Kingdom and the United States – have also released their own lists of 'critical minerals'. In addition, the CRMA outlines a more focused list of 17 'strategic raw materials'. These materials are crucial for strategic technologies across the green, digital, defence and aerospace sectors. In December 2024, NATO introduced its own list of 12 'defence-critical raw materials' that are vital to the production of advanced defence systems and equipment. There is considerable overlap between each of the above lists. The security of supply of these critical raw materials – including those listed as 'strategic' and 'defence-critical' – is under threat from a range of challenges, which include – but are not limited to – armed conflict, geopolitical misalignment and export restrictions.

"Without critical raw materials, there will be no Green Deal, no future technology development in Europe."

Maroš Šefčovič, Commissioner for Trade and Economic Security, European Commission



Conflict and competition

Recent data on proven reserves of critical raw materials – with a focus on those listed as 'defence-critical' by NATO – illustrates two challenges. The top ten countries by weight of reserves are Australia, South Africa, China, Brazil, Ukraine, India, Gabon, Canada, Madagascar and Mozambique. The first challenge is that four of these countries – Brazil, Ukraine, India and Mozambique – are affected by armed conflict, which disrupts extraction, damages infrastructure and creates uncertainty around long-term access. Secondly, some of these ten countries belong to diverse and competing international groupings. While Canada is a G7 member, Brazil, China, India and South Africa are members of the BRICS group. Geopolitical misalignment between potential exporters and importers of critical raw materials could therefore undermine cooperation and trade, particularly during crises. These challenges are not confined to extraction, but also affect downstream activities such as processing, production and manufacturing.

74% — **74% OF GLOBAL COBALT MINE PRODUCTION ORIGINATES FROM THE DEMOCRATIC REPUBLIC OF THE CONGO, WHERE ARMED CONFLICT HAS INTENSIFIED IN RECENT MONTHS.**

80% — **CHINA ACCOUNTS FOR OVER 80% OF GLOBAL TUNGSTEN MINE PRODUCTION.**

Increased weaponisation of trade policies

Trade policies, dominated for decades by what seemed to be an unstoppable trend towards global free trade, are being increasingly 'weaponised' by large economies for national political goals. China, which holds a near monopoly on the processing of rare earth minerals, restricted their exports (and those of related technology) in 2023. Partially in response to this, the Trump administration is pursuing trade policies linking continued military support to economic concessions, most notably in Ukraine. In both cases, these policies are driven primarily by attempts to obtain control over critical minerals needed for defence equipment. The trade policies of the new administration in Washington DC have in turn led to additional export controls on rare earth minerals imposed by China in April 2025. Resource-poor and relatively weak militarily, the EU is at risk of losing the race for access to critical minerals.

140 MILLION TONNES — **THE TRUMP ADMINISTRATION IS PUSHING FOR 'DEALS' LINKING EXCLUSIVE RIGHTS TO THE EXPLOITATION OF CRITICAL MINERALS WITH CONTINUED MILITARY SUPPORT, MOST NOTABLY IN UKRAINE, WHICH HAS 140 MILLION TONNES IN RESERVES OF MANGANESE.**

90% — **CHINA, WHICH PROCESSES MORE THAN 90% OF RARE EARTH MINERALS, IMPOSED NEW EXPORT RESTRICTIONS IN APRIL 2025 TO COUNTER THE 'TRUMP TARIFFS', WHICH WILL FURTHER DISRUPT SUPPLY CHAINS.**

Towards greater security and resilience

The EU and individual European countries are responding with various policies to bolster security of supply, including onshoring, friendshoring, strategic stockpiling, recycling and substitution. While these initiatives are laudable, they will not alone be sufficient to guarantee access to critical raw materials amid eroding trust and growing geopolitical competition. The EU, with its complex and consensus-focused decision-making process, is at a disadvantage compared to both Beijing's system of centralised rule and the Trump administration's transactional and disruptive approach to global order. However, the increasing competition between China and the US might also provide new opportunities for the EU to strengthen its raw-materials diplomacy through forming new partnerships with resource-rich countries in Asia, Africa and Latin America, with the aim of improving security of supply of critical raw materials. This approach would rest on considerable trust, however, and would also require the EU to more explicitly portray its trade policies as an integral element of a strategy for Europe to become more autonomous in its defence and foreign policy.

€22.5 BILLION — **THE EUROPEAN COMMISSION HAS ADOPTED A LIST OF 47 NEW 'STRATEGIC PROJECTS' LOCATED ACROSS 13 EU MEMBER STATES, WITH AN EXPECTED OVERALL CAPITAL INVESTMENT OF €22.5 BILLION, TO BOLSTER THE CONTINENT'S STRATEGIC RAW-MATERIAL CAPACITIES.**

"We cannot sleepwalk into another overdependence in a strategic area."

Maroš Šefčovič, Commissioner for Trade and Economic Security, European Commission

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Hamburg Messe und Congress GmbH · Messeplatz 1 · 20357 Hamburg · Germany
Phone +49 40 3569-0 · Fax +49 40 3569-2203 · info@gsis-hamburg.com · www.gsis-hamburg.com

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Hamburg Municipal Court, Reg. No. HRB 12 054
VAT No. DE811214125

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