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SUPPLY CHAIN SURGES & SHORTAGES

Exiger Trends Report

December 2021

Climate, Disasters, & Disruption

- **Lithium demand met with mining disdain.** Rio Tinto, the world's second largest mining enterprise, faces backlash in **Serbia** as it attempts to mine **jadarite**—a new mineral local to the Serbian Jadar River valley that would produce unprecedented volumes of **lithium**, critical to EV batteries and other modern tech ([Bloomberg](#)).
- **Chile's President-Elect supports a “national lithium company.”** The left-wing candidate's vision, meant to raise cash for public services and protect the environment, will squeeze private miners and influence global markets. In 2021, Chile produced nearly a third of the global lithium supply ([S&P Global](#); [Reuters](#)).
- **Flooding complicates North American supply chains.** The **Port of Vancouver** experienced increased ship backlogs (as high as 60) due to significant **flooding** that destabilized Canadian road and rail shipping ([Fortune](#); [Bloomberg](#)).
- **Agri-security supply chains.** Food security dashboards from Purdue University indicate that only four premier meat processing companies account for 85 percent of U.S. cattle, representing material concentration risk ([Purdue Agriculture News](#)).

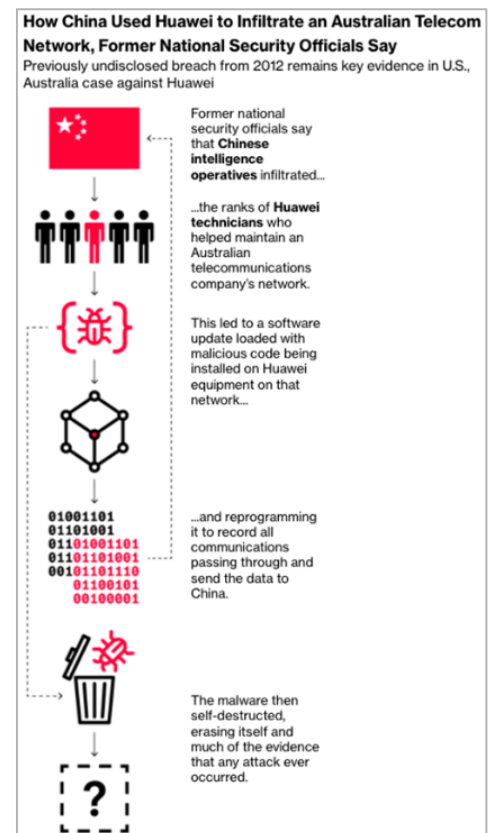
Labor & Industry

- **China creates rare earth giant.** China will reportedly consolidate the rare earth mining efforts of China Minmetals Corp., Aluminum Corp. of China, and Ganzhou Rare Earth Group Co. under one mega-enterprise: **China Rare Earth Group** ([Taiwan News](#)).
- **Department of Energy's public forum.** To meet climate targets, the DoE projects the U.S. will require increased **HALEU** (high-assay low-enriched **uranium**) fuel capacity to develop a new fleet of advanced nuclear reactors. HALEU is enriched between five and 20 percent with uranium-235; current reactor fuel is enriched up to only five percent ([U.S. Department of Energy](#)).
- **USGS's Critical Minerals List, revisited.** In reevaluating its criticality criteria, the U.S. Geological Survey (USGS) added **nickel** and **zinc** to its 2021 draft list of critical minerals ([Mining.com](#)):
 - Nickel's inclusion refers to the **single-point-of-failure domestic nickel supply** and high demand anticipation from EV battery manufacturers.
 - Zinc's inclusion is spurred by **high import dependency**—in 2020, imports represented 83 percent of domestic consumption.

- With these additions, the U.S. now lists 50 designated critical minerals. The U.S. leads global exports of only two: titanium (excluding oxides, ores, and concentrates) and beryllium (excluding scrap metals and powders).
- **Lawmakers, automakers pursue domestic supply chains.** While many in the auto industry, including [Volkswagen](#), project that the global chip shortage could last until mid-2022, U.S. and European officials are pursuing deals to boost domestic operations. The **CHIPS For America Act**, passed by the Senate in June, would provide nearly \$52 billion in subsidies for domestic chipmakers, but the House has not yet appropriated the funds. Meanwhile, the European Commission announced its interest in pursuing the European CHIPS Act to incentivize European chipmakers ([CNet](#)).
- **GM secures magnet supply chain.** General Motors has secured deals with German magnet company **Vacuumschmelze (VAC)** and California-based **MP Materials** to develop its EV supply chain. The deal with MP Materials boosts private sector procurement of domestically sourced rare earths ([Tech Crunch](#)).
- **At least 13 new battery cell factories in U.S. online by 2025** ([Electrek](#)).
- **China's dominance of cobalt mining in Congo.** A *New York Times* investigation chronicled China's exploits in the central African country, where a **Chinese government-backed entity has bought two of the country's largest deposits of cobalt**, which is used to boost EV battery performance ([NY Times](#)). Recently obtained documents tied to a data leak illuminate how Chinese companies came to dominate Congo's mineral mining, and how its former president's network benefited ([Bloomberg](#)).

Risk & Innovative Mitigation

- **Huawei linked to decade-old telecom hack, Xinjiang surveillance.** A recent investigation has illuminated Huawei's involvement in the **2012 hack on Australian telecoms systems**, while uncovered PowerPoint presentations have revealed the company's role in **Orwellian surveillance**: ([Exiger Solutions for ICT Sector](#))
 - **Malign software.** The 2012 incident, involving a software update loaded with malicious code, confirmed Western fears that **Huawei products were conduits for espionage**. Data gathered provided attackers access to the contents of private chats as well as information that could be used to target specific persons or devices ([Bloomberg](#)).
 - **Xinjiang surveillance.** More than 100 Huawei PowerPoint presentations, many marked "confidential" and posted to a public-facing Huawei website before removal in late 2020, show Huawei pitching how its technologies can **help authorities identify individuals by voice, monitor political individuals of interest,**



For example, a product called the **Huawei and Hwei Smart Prison Unified Platform**, developed in conjunction with Shanghai Hwei Technology (another U.S.-blacklisted tech firm), is described as a **“comprehensive prison surveillance system”** that includes the capability ([Washington Post](#)).



- ## Threats & Regulatory Compliance

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- **Human rights abuses meet asset freeze, designations.** Treasury marked International Human Rights Day on December 10th by blocking assets of 15 individuals and 10 entities connected to global human rights abuse and repression, and adding **Hong Kong-based AI firm SenseTime Group Ltd. to the Chinese Military-Industrial Complex (“CMIC”) List** for enabling human rights abuses against Muslim Uyghurs in Xinjiang ([U.S. Treasury](#)). The U.S. also added **eight Chinese tech entities** to the CMIC List for supporting **biometric surveillance and tracking ethnic and religious minorities** ([U.S. Treasury](#)). The CMIC List prohibits trade in listed companies’ securities.
- **Belarus sovereign debt, state entities targeted.** On December 2nd, the U.S. announced asset freezes on 20 individuals and 12 entities for supporting Lukashenka-led Belarus’ migrant smuggling as well as its crackdown on human rights and democracy. Among the targeted entities are **three exporters of potash**, which Treasury identified as a significant source of revenue for the Lukashenka regime. The designations are accompanied by new restrictions on issuance of Belarussian sovereign debt ([U.S. Treasury](#)).

Logistics

- **Belarusian migrant crisis affects Russian supply chain.** A lobbying group representing Mars, Pepsi, Danone, Nestle, Coca-Cola, Metro, and TetraPak urged the Russian government to intervene in the standoff at the Poland-Belarus border where hundreds of trucks await access; roughly 10 percent of Russian imports rely on the Poland-Belarus border ([US News](#)).
- **First climate container terminal.** The Port of Duisburg in Germany is the world’s largest inland port and will soon become Europe’s first carbon-neutral container terminal using hydrogen power ([Port Technology](#)).

ABOUT EXIGER

Exiger is revolutionizing the way banks, corporations, and governments manage risk through its combination of practical expertise, award-winning technology, and process excellence. In recognition of the growing volume and complexity of data and regulation, Exiger is committed to creating a more sustainable compliance environment through its holistic and innovative approach to problem solving. Powered by DDIQ and Insight 3PM, Exiger takes an analytics-led, technology-enabled approach to everything we do.

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