

SUPPLY CHAIN SURGES & SHORTAGES

Exiger Trends Report

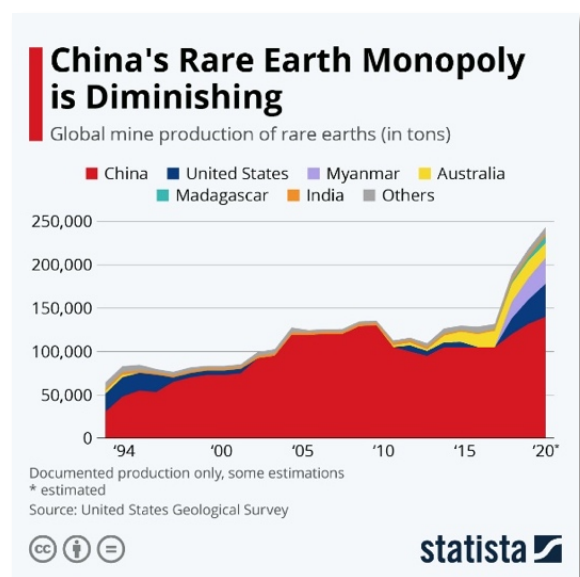
January 2022

Climate, Disasters, & Disruption

- **Lithium price spikes as new Chinese supply risks emerge.** Upstream lithium producers are cutting production forecasts due to COVID-19 restrictions in China and Australia. In northern China, lithium plants also face pollution restrictions during the 2022 Winter Olympics in Beijing ([Bloomberg](#)).
- **Semiconductor delivery slows, signaling continued component shortages.** The booming demand for silicon-based chips has intensified the semiconductor shortage, leading to global revenue misses of over \$500 billion since 2019 ([Supply Chain Dive](#), [Bloomberg](#)). Disasters also continue to plague semiconductor manufacturers: Toshiba suspended operations at its Oita, Japan plant due to earthquake-related damage, and ASML shut down segments of its German plant after a fire ([Reuters](#), [Bloomberg](#)).
- **Uranium prices surge during Kazakh civil unrest.** Kazakhstan, the world's leading uranium producer at 40 percent of global supply, witnessed significant protests and civil unrest stemming from increased fuel prices, which in turn led to a spike in uranium prices. As governments shift away from fossil fuels, investors are wagering that nuclear power will have a resurgence ([WSJ](#)).
- **The EU's taxonomy list, revisited.** The European Commission presented its revised "sustainable finance taxonomy" rules in a draft proposal in which lawmakers labeled natural gas and nuclear energy as "green investments," inciting backlash from environmental/ESG groups ([CNBC](#)).

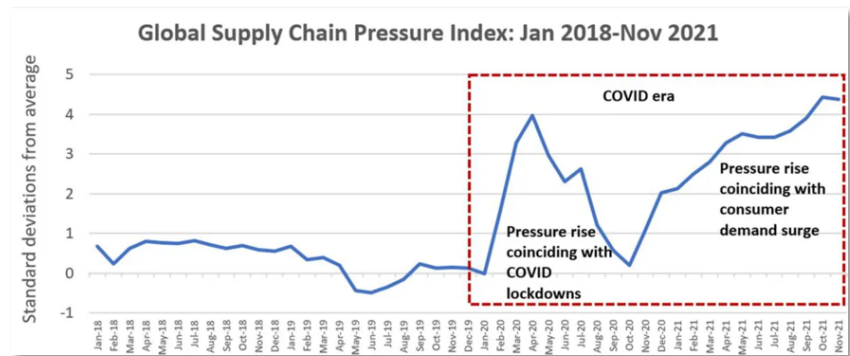
Labor & Industry

- **U.S. bill would block defense contractors from buying Chinese rare earths.** A bipartisan bill introduced in the U.S. Senate would, by 2026, ban defense contractors from using China-sourced rare earths to manufacture weaponry, while using the Pentagon to create a permanent rare earth stockpile ([Reuters](#)). Although its dominance is slowly diminishing, China still controls roughly 60 percent of rare earth production and 87 percent of rare earth processing ([Visual Capitalist](#)).



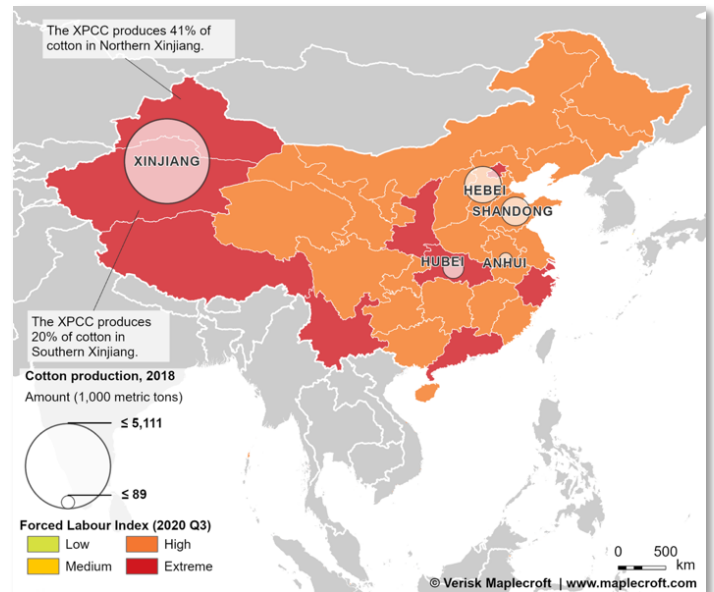
Risk & Innovative Mitigation

- **Beijing’s “little giants” program, startup subsidies seek to bust Silicon Valley.** Since 2018, the Chinese Communist Party (CCP), through China’s Ministry of Industry and Information Technology (MIIT), has advanced a program fostering competition for state-backed subsidies. The goal: dethroning the U.S. as the global tech hegemon. Having named 4,762 so-called little giants since 2019, including 1,000 “priority giants,” it appears MIIT is targeting critical sectors like robotics, quantum computing, and semiconductors. The CCP’s goal is to create 10,000 little giants by 2025 ([Bloomberg](#)).
- **Huawei successful in obtaining U.S. patents despite blacklisting.** In 2021, despite enduring economic damage from its U.S. blacklisting, Huawei received 2,770 U.S. patents—fifth among all companies (up from ninth in 2020). While Chinese firms as a whole expanded their hold on U.S. patent grants by 10 percent in 2021, American companies accounted for less than half of U.S. patents issued. Critical technology sectors that saw increases include: machine learning (up 39 percent); quantum computing (up 36 percent); and earth drilling for obtaining oil, gas, or water (up 36 percent) ([IFI Claims](#), [Bloomberg](#)).
- **Chinese rocket scientist defects to the West.** A Chinese rocket technician—closely associated with the state-owned (and U.S.-blacklisted) Aviation Industry Corp. of China (AVIC)—reportedly arrived in the U.S. with detailed information about China’s hypersonic glide vehicle ([Express](#)).
- **Federal Reserve develops new barometer to measure supply chain disruptions.** Called the Global Supply Chain Pressure Index (*right*), the new gauge draws on established sources and indicators of cross-border transportation costs and country-level manufacturing data ([Federal Reserve Bank of NY](#)).
- **Transparency International reveals its 2021 Corruption Perceptions Index (CPI).** A country’s CPI score is the “perceived level of public sector corruption on a scale of 0-100, where 0 means highly corrupt and 100 means very clean.” According to the 2021 CPI, the U.S. lost its position among the top 25 best performing countries. Notably, since 2017, Canada’s score has fallen the most while Armenia’s has risen the most ([Transparency Int’l](#), [Exiger & Transparency Int’l](#)).
- **House unveils America COMPETES Act.** The bill ([H.R. 4521](#)), drafted in response to the Senate’s 2021 U.S. Innovation and Competition Act ([S.1260](#)), cuts out roughly \$200 billion overall, although leaving \$52 billion for domestic semiconductor R&D and \$45 billion to embolden supply chain resiliency and prevent “shortages of critical goods” ([Reuters](#)).



Threats & Regulatory Compliance

- **Xinjiang/Uyghur supply chain law to take effect June 21, 2022, initiating steep supply chain shifts.** Signed into law in December 2021, goods and materials presumed to have been produced by forced Uyghur labor will be barred from entering the U.S. Criteria for application include goods mined, manufactured, or produced, wholly or in part, in Xinjiang, and goods produced by entities that work with the government of Xinjiang “to recruit, transport, transfer, harbor, or receive forced labor” out of Xinjiang. The law provides a mechanism for U.S. importers to rebut the presumption of forced labor if they can provide “clear and convincing evidence” that the goods were not produced wholly or in part by forced labor. The law will force mining, manufacturing, food, and textile companies, among others, to illuminate and critically evaluate their supply chains ([Compliance Week](#)).
- **Alibaba’s U.S. cloud business under national security scrutiny.** The Commerce Department-led probe is examining how the Chinese company stores U.S. clients’ data, including personal information and IP, and whether the Chinese government could gain access or disrupt U.S. users’ access to information stored on the Alibaba Cloud ([Reuters](#)).
- **U.S. revokes China Unicom’s authorization to operate in the U.S. The FCC ordered China Unicom Americas to end domestic interstate and international telecommunications services within 60 days.** Per FCC Chairwoman Jessica Rosenworcel, “the national security landscape has shifted and there has been mounting evidence—and with it, a growing concern—that Chinese state-owned carriers pose a real threat to the security of our telecommunications networks” ([Fox Business](#), [Exiger Solutions for ICT Sector](#)).
- **U.S. mulls deploying export controls that hobbled Huawei against Russia.** Senior White House officials have reportedly deliberated on using financial sanctions and the foreign direct product rule—a far-reaching export control barring sales of U.S.-origin technology and software—if Russia violates Ukrainian sovereignty ([Washington Post](#)).
- **Globally integrated security screeners tied to Chinese state ownership.** EU security officials are increasingly concluding that Nuctech Co. Ltd. is a national security threat due to its partial state ownership and deep connections to the CCP and People’s Liberation Army. Reports indicate Nuctech has active devices in 26 of 27 EU member states, including at the World Economic Forum and NATO’s borders with Russia, which could be used for data accumulation ([ABC News](#)).
 - In 2020, U.S. officials warned European authorities that Nuctech—aided by the Chinese government—had been seeking to undercut competition in Europe. That same year, the State Department estimated that Nuctech held a 90 percent share of Europe’s sea-



cargo security equipment market and half of Europe's commercial cargo-screening equipment market ([WSJ](#)).

- Often dubbed the “Huawei of airport security,” Nuctech is a security products company established in 1997 as a branch of Tsinghua University, an academic institution assessed as “very high risk” due to its cooperation in Chinese defense research and alleged involvement in cyberattacks ([ASPI](#)). Nuctech was at one time run by Hu Jintao, the former President of China and Chairman of the Central Military Commission. In 2019, a subsidiary of a Chinese state-run nuclear power plant operator became the controlling shareholder of Nuctech's parent, Tsinghua Tongfang ([WSJ](#)).



Logistics

- **FedEx, U.S. Naval Base partner to bypass LA port backlogs.** In response to unprecedented supply chain congestion in Southern California, FedEx launched its first chartered vessel as part of a “congestion bypass service” first announced in December 2021 ([Supply Chain Dive](#)). In early January 2022, the queue of ships waiting to enter these critical ports reached a record of 109 ([WSJ](#)). FedEx will sell capacity on empty 53-foot containers it imports from China as part of a regular service allowing shippers to bypass congestion, initially using the Port of Hueneme, a naval base in Ventura County, California ([Port of Hueneme](#)).
- **Criminal groups increasingly exploit GNSS manipulation, threatening maritime security.** According to research by maritime security groups, occurrences of global navigation satellite system (GNSS) manipulation increased dramatically in 2021. GNSS manipulation allows vessels to report false geographical information, aiding those engaged in illicit activity or evading trade restrictions ([Global Trade Review](#)).

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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