

SUPPLY CHAIN SURGES & SHORTAGES

Exiger Trends Report

February 2022

Climate, Disasters, & Disruption

Russian Invasion of Ukraine:

- Russian cyberattacks targeting U.S. emerge as pressing risk.** Cyberattacks could threaten shipping lines and pose challenges for an already embattled global supply chain (akin to 2017's NotPetya attack that left Maersk and FedEx with losses eclipsing \$700 million). Officials warn Russian hackers may turn their attention to key U.S. and western European companies to retaliate for sanctions ([Quartz](#); [Exiger on Newsy](#)).
- White House warns U.S. chip manufacturers of impending neon gas shortage.** A U.S. Government memo advised the chip industry to diversify supplies of **noble gases and rare metals**, with **Ukraine responsible for 90 percent of chip-grade neon gas imported to the U.S.** When Russia annexed Crimea in 2014, neon gas prices spiked ~600 percent ([Reuters](#); [Exiger on Bloomberg](#)).
- Germany halts Nord Stream 2.** Germany is halting certification of the gas pipeline in response to the Russian invasion. Although construction ended last year, the pipeline—whose sole shareholder is Russian state-owned **Gazprom**—cannot begin moving gas without German regulatory authorization. The situation may escalate if Russia, which has already reduced gas exports to Europe, stops sending gas entirely. Meanwhile, on February 23rd, the U.S. proceeded with sanctions on **Nord Stream 2 AG**—a Gazprom subsidiary in charge of building the pipeline ([CNN](#)).
- Oil and gas prices surge.** Russian oil and gas account for **12 and 17 percent of global supply**, respectively, making Russia one of the world's most important energy providers, particularly for Europe. As the conflict escalated, the EU has been seeking alternative natural gas and oil suppliers, with the U.S. boosting its gas shipments ([CNBC](#); [NY Times](#); [Exiger on Bloomberg](#)).
- More than just oil and gas.** 130+ economies have at least one good or commodity import predominantly sourced from Russia, Ukraine, and neighboring Belarus, which Moscow is using as a military base ([Bloomberg](#)).

Countries that rely on Russia or Ukraine for a majority of an imported commodity, excluding natural gas and oil

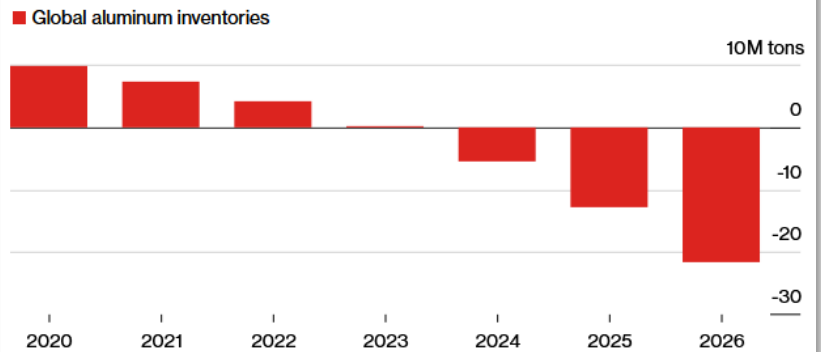
Importer country	Source country	Commodity	2019-20 value	2019-20 share
India	Ukraine	Sun-flower seed, safflower or cotton-seed oil	\$3.1B	79.6%
Egypt	Russia	Wheat and meslin	3.1B	53.7
Turkey	Russia	Wheat and meslin	3.0B	64.7
China	Ukraine	Maize (corn)	2.3B	63.6
Finland	Russia	Nickel intermediate products	2.0B	100.0
Italy	Ukraine	Iron or non-alloy steel	1.9B	54.1
Turkey	Russia	Iron or non-alloy steel	1.8B	56.0
Poland	Russia	Coal	1.6B	56.6
China	Ukraine	Sun-flower seed, safflower or cotton-seed oil	1.6B	63.2
Belgium	Russia	Iron or non-alloy steel	1.5B	79.6
Netherlands	Ukraine	Maize (corn)	1.4B	53.2
Philippines	Russia	Iron or non-alloy steel	1.2B	50.6
Morocco	Russia	Coal	1.0B	70.2

Source: UN Comtrade
 Note: Bloomberg's analysis looked at combined 2019 and 2020 import values for all 4-digit Harmonized System (HS) commodity codes.

- Aluminum faces “unprecedented” supply crunch.** Aluminum prices will reportedly reach a record \$4,000/ton by early 2023. Demand has rebounded past pre-pandemic highs, while energy crises in Europe and China have threatened aluminum’s coal-reliant production (energy accounts for roughly one-third of its cost). Commodity trader Trafigura estimates that **aluminum global stockpiles could be depleted by early 2024** ([Bloomberg](#)).

Out of Aluminum

Trafigura says global inventories will be exhausted by early 2024



Source: Trafigura

Note: Negative inventory figures represent the implied tonnage needed to make up for a shortfall between supply and demand

- Cyberattack Targets:**
 - UK foreign ministry.** In early 2022, the UK foreign ministry suffered a “serious” cyberattack the “details of which cannot be disclosed” (according to tender documents on the UK Foreign Ministry’s website). The UK had to enlist BAE Systems Applied Intelligence for help ([Reuters](#)).
 - Expeditors International.** Among the largest U.S. providers of global logistics, the Seattle-based firm first announced the attack on February 20th and remained affected as of February 27th ([Bloomberg](#); [Expeditors International](#)).
 - Toyota.** After one of its suppliers—Kojima Industries—was hacked, Toyota announced that, on March 1st, it is halting 28 production lines at 14 factories across Japan, a **third of its global factories** ([Reuters](#)).
- Protesters’ blockade highlights vulnerability of Ambassador Bridge linking U.S. and Canada.** Approximately **25 percent of U.S-Canada trade** flows across the Ambassador Bridge. The ease with which anti-vaccine mandate protestors recently blockaded the bridge, as well as its private ownership, have revived concerns over its vulnerability ([CBC](#)).

Labor & Industry

- U.N. reports record high value of trade in 2021, forecasts slower growth in 2022.** The U.N.’s Conference on Trade and Development [report](#) announced that global trade had reached a record high value of \$28.5 trillion in 2021, with both goods and services trade returning to pre-pandemic levels. The report forecasted slower growth in 2022 due to ongoing supply chain disruptions, energy prices, inflation, and global debt levels ([UNCTAD](#)).
- Intel acquires Israeli semiconductor firm Tower Semiconductor in push to compete with TSMC.** The move is the latest in Intel’s spending spree seeking to geographically diversify its manufacturing operations. Tower Semiconductor primarily manufactures power management chips and image sensors, and can support Intel in fulfilling military contracts. Intel is looking to rival the success of TSMC (Taiwan Semiconductor Manufacturing Corp.) in the chip-foundry market ([Bloomberg](#)).

- **White House announces \$35 million investment in U.S. rare earth mining company MP Materials.** The investment will be dispersed as part of DoD's Industrial Base Analysis and Sustainment program to institute a "full end-to-end domestic permanent magnet supply chain." The move seeks to bolster domestic production of materials critical to the supply chain for the global energy transition ([Supply Chain Dive](#)).



- MP Materials operates the Mountain Pass mine in San Bernardino, California. In November 2020, the company received \$9.6 million in DoD awards to establish processing capabilities. MP Materials has historically sold nearly all rare earth concentrate to **Chinese firm Shenghe Resources Holding Co., Ltd.**, for distribution to downstream refiners in China. Shenghe Resources, one of only a few Chinese companies operating at every stage of the rare earths supply chain, actively holds a 7.71 percent stake in MP Materials.
- MP Materials will reportedly use the \$35 million award and \$750 million of its own funds to lessen its reliance on Chinese processing.

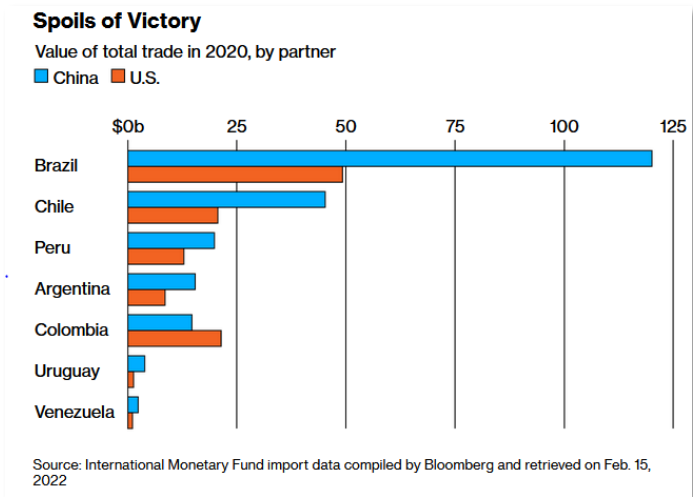
Risk & Innovative Mitigation

- **EU and Taiwan indicate willingness to cooperate on chip industry boost.** The EU released a plan to boost its chip industry and cut dependence on U.S. and Asian supplies by working with Taiwan. Taiwan's Foreign Ministry said it sees "enormous room for cooperation" between Taiwan and the EU in the "restructuring of global supply chains such as semiconductors." Neither the EU nor its member states have formal diplomatic relations with Taiwan but have maintained friendly relations, especially as disputes over trade and human rights sour EU-China relations ([Reuters](#)).
- **Crypto coalition forms to address digital market manipulation.** The new **U.S. Travel Rule Universal Solution Technology (TRUST)** membership, built to comply with global anti-money laundering standards, includes prominent crypto and financial firms such as Coinbase, Fidelity, Kraken, and Robinhood ([Coinbase](#)). TRUST will leverage Exiger's automated due diligence tools, DDIQ and Insight 3PM, to onboard and monitor industry participants ([Exiger](#)).

Threats & Regulatory Compliance

- **U.S. and Europe slap sanctions and export controls on Russia, and Western powers disconnect selected Russian banks from SWIFT.** The U.S. and its allies quickly levied sanctions on Russian institutions and lawmakers in response to the Russian invasion of Ukraine. On February 26th, Western powers also disconnected certain Russian banks from **SWIFT** (Society for Worldwide Interbank Financial Telecommunication), the global financial system's main payment clearing house ([CNN](#); [Reuters](#), [Exiger on Fox Business](#), [Exiger Nexus](#)). Two days earlier, the U.S. Commerce Department implemented export controls aimed at Russia's defense, aerospace, and maritime sectors. Targeted items, many of which were not previously subject to controls when destined for Russia, include **semiconductors, computers, telecommunications equipment, information security equipment, lasers, and sensors** ([U.S. Department of Commerce](#)).

- Chinese investments in South America have led to regional dominance.** Having ramped up South American investments since the early 2000s, China has gradually shifted to local investments focused on **critical materials and agriculture**. In Argentina alone, China is set to invest \$24 billion in local infrastructure projects; this includes state-owned **China National Nuclear Corp.’s agreement to build an \$8 billion nuclear plant west of Buenos Aires**. In June 2021, the U.S. launched the “Build Back Better World” initiative just months after loaning Ecuador \$3.5 billion to ease Chinese debt burdens. The initiative aims to compete with China’s Belt and Road initiative by sustainably meeting the infrastructure needs of low and middle income countries ([Bloomberg](#); [Reuters](#)).



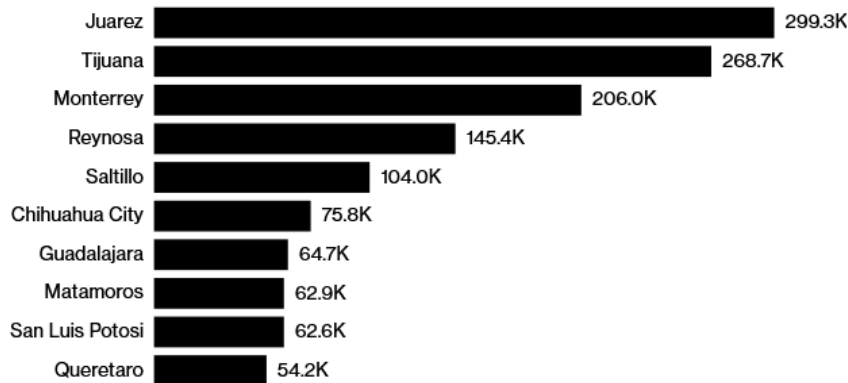
- A U.S. Inspector General report found fake parts in the nuclear power plant supply chain.** The underlying investigation discovered evidence of counterfeit, fraudulent, and suspicious items in U.S. nuclear facilities, some with the potential to cause system failures ([Securing Industry](#)).
- Lockheed Martin forgoes bid to acquire Aerojet Rocketdyne following FTC lawsuit.** The FTC argued that the \$4.4 billion deal would have damaged fair competition among defense contractors. Raytheon also pushed for the FTC to stop the acquisition on the ground it would render the firm unable to fairly access Aerojet’s engine tech, such as rocket motors and air-breathing hypersonic propulsion ([Bloomberg](#)).
- European Commission proposes new supply chain due diligence rules for large companies.** If approved, the February 23rd proposal would require large companies based in the EU (and certain large non-EU companies operating there) to perform due diligence on **ESG (environmental, social, governance)** issues throughout their supply chain, at risk of fines or civil liability ([Latham & Watkins](#)).
- Japan advances its first supply chain-focused economic security bill.** Japan’s cabinet approved the nation’s first such law aimed at protecting supply chains and enhancing autonomy by strengthening supply sources, imposing regulatory checks on core infrastructure, increasing development of key technology, and tightening information disclosure on patents ([Bloomberg](#)).

- **Mexico’s “magnet cities” are attracting renewed U.S. investment as an alternative to Asian sourcing.** Whereas freight from Asia to North America takes roughly 110 days, freight from Mexico takes only five to 10 days. Many cities along the Mexico-U.S. border host factories

Maquila City

Mexico's magnet cities for foreign plants are booming with investment

■ Number of maquiladora factory workers



Source: Inegi

(known to industry professionals as *maquiladoras*) set up after the creation of NAFTA in 1994, although cheaper labor in China and cartel violence in Mexico led many manufacturers to move operations eastward. Today, Mexico’s *maquiladoras* are booming with investment from manufacturers desperate to alleviate supply chain woes ([Bloomberg](#)).

- **Turkey’s Bosphorus Strait hosted record transit numbers in 2021.** Traffic increased by 147 shipments in 2021 with chemical tankers and large vessels accounting for most of the growth. The higher transit fees

are key to Turkish President Erdogan’s plan to build a \$15 billion “**Canal Istanbul**,” intended to increase safety and divert shipping congestion away from Turkey’s densely populated Bosphorus Strait ([Bloomberg](#)).

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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