International trade in critical raw materials

Statistics Explained

Data extracted in June 2026
Planned article update: June 2027

Highlights

In 2025, the EU was heavily dependent on China for imports of magnesium, gallium and ferro-tungsten.

In 2025, the EU was heavily dependent on Brazil for imports of ferro-niobium on Türkiye for imports of borates on Tajikistan for antimony and on Chile for lithium carbonates.

Measured in value, in 2025, the top 3
origins of REE+ imports, accounted for two-thirds of EU imports. Measured in weight the share of the top 3 was 96%.

Critical raw materials are essential to the EU 's economic strength and strategic autonomy. They are indispensable for a broad range of strategic sectors including the net zero industry, the digital industry, aerospace, and defence sectors, and stand at the very beginning of each value chain. Amongst the non-energy, non-agricultural raw materials that are assessed by the European Commission, some are defined as critical based on objective criteria, including their economic importance and their supply risk.

The EU is heavily dependent on imports of certain raw materials. In most cases, production within the EU is small and mostly involves processing and much less mining or extraction. Additionally, imports are often concentrated in 1 or 2 partners, which makes the EU vulnerable to supply disruptions in critical technology sectors.

This article provides data on certain critical raw materials, selected based on their supply chain risks or recent restrictions introduced by key partner countries.

The main findings are the following

- the volume of EU imports of critical raw materials decreased between 2019 (2021 for REE+) and 2025, except for borates (between 2023 and 2025) and gallium
- the prices for EU imports of critical raw materials increased between 2019 (2021 for REE+) and 2025, except for borates (between 2023 and 2025)
- for magnesium, ferro-niobium, borates, gallium, lithium carbonates and ferro-tungsten, the main partner accounted for more than two-thirds of total EU imports

Selection of critical raw materials for this article

Since 2011, an assessment report has been published every 3 years with the aim of assessing the materials considered critical. In 2020, the European Commission published a foresight study of critical raw materials for strategic technologies and sectors in the EU . That document identifies 24 materials that are important for 3 sectors: renewables, e-mobility, and defence and space. For each of these materials, the supply risk was identified, as shown in Figure 1. This article provides data on the materials with a very high or high supply risk. In addition, gallium, antimony, natural graphite, copper, tungsten and lithium are also analysed because of their importance for strategic value chains and, in some cases, trade restrictions affecting these products.

Figure 1 identifies 7 materials with very high or high supply risk: light rare earth elements (LREEs), heavy rare earth elements (HREEs), magnesium, niobium, germanium, borates and scandium. Due to data restrictions, it is

not possible to identify LREEs and HREEs separately, nor is it possible to distinguish them from scandium and yttrium. Consequently, the LREEs, HREEs, scandium and yttrium are reported together as REE+. Furthermore, although niobium is a combination of several codes in the collection of trade data, due to data confidentiality, reporting in this article is restricted to ferro-niobium. Likewise, reporting for antimony is restricted to antimony oxides and unwrought antimony in powder form, reporting for tungsten is restricted to ferro-tungsten, and reporting for lithium is restricted to lithium carbonates. Finally, it is not possible to report on germanium because it cannot be distinguished from zirconium.

To summarise, this article discusses the following products: rare earth elements including scandium and yttrium (REE+), magnesium, ferro-niobium, borates, gallium, antimony, natural graphite, copper, ferro-tungsten and lithium carbonates. All the materials analysed in this article were identified as critical in the EU assessment reports disseminated since 2011 or are considered strategically important for the EU economy. The data show the main supplying countries in 2025, as well as imports and exports for the period 2019 to 2025. A detailed list of the product codes making up the materials discussed in this article is presented in the section on data sources.
thumb|centre|700px|Figure 1: Critical raw materials and their supply risk
Source: Joint Research Centre|alt= Figure showing the supply risk of critical raw materials and the technologies and sectors in which they are used. For more details, see the link to the dataset below.

Rare earth elements, scandium and yttrium (REE+)

REE+ are a set of 17 chemical elements in the periodic table, specifically the 15 lanthanides plus scandium and yttrium. They are used in everyday technologies like cellphones and computers but also in advanced medical technologies like MRIs, laser scalpels and even some cancer drugs. In defence applications, they are used in satellite communications, guidance systems and aircraft structures. They are critical in a number of green technologies, especially those that are going to support net zero carbon emissions goals, like wind turbines and electric vehicles.

The volume of imports of REE+ products increased in 2022, stabilised in 2023 and decreased strongly in 2024 but recovered somewhat in 2025 (see Figure 2). Their price fell by 15% in 2023 but returned to 2022 levels in 2024 and increased by 5% in 2025. In 2025, the ratio of imports to exports in value was 1.0. However, due to lower prices for imports than for exports, the same ratio in volume was 2.3.Aggregated data for the EU, prior to 2021 is not comparable with later data due to a shift in the level of confidential data.

Figure 2Measured in value, in 2025, the top 3 origins of REE+ imports, accounted for two-thirds of EU imports. The bulk of EU imports of REE+ originated from China (40%), followed by Norway (15%) and Malaysia (11%). Measured in weight the share of the top 3 was 96%. China was also the main partner for 11 of the 14 detailed products shown in Table 1. For most of the imported products, the concentration of imports, as measured by the share of the top-3 importers was more than 90%.

thumb|centre|700px|Table 1: Largest partners of imports of REE+ by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/957b84fd-ba52-47e9-866b-5a6b0a8f51e1?lang=en&createdAt=2026-06-15T07:22:21Z Eurostat ds-045409]|alt=Table showing the three largest importers of rare earth elements and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Magnesium

Magnesium is a chemical element which has applications in automotive, aerospace, electronics and biomedical industries. Even if magnesium is the eighth most abundant element in the earth's crust, it has been listed in the EU Critical Raw Materials list since 2011 because of the large EU dependency, especially for the extraction and processing stages.

Imports of magnesium remained stable in volume between 2019 and 2021 before increasing by 27% in 2022, but

falling by 33% in 2023 and 2% in both 2024 and 2025 (see Figure 3). For exports, although the quantity is significantly lower than for imports, a similar pattern is visible with an increase in 2022 followed by a drop in 2023 and 2024 but a small increase in 2025. Between 2021 and 2022 prices for both imports (from 2.9 € /kg to 5.5 € /kg) and especially exports (from 3.2 € /kg to 7.4 € /kg) increased sharply but fell in consequent years.

Figure 3For its imports of magnesium, the EU was extremely dependent on Chinese imports which made up 92% of all magnesium imports into the EU. In the case of magnesium, the ratio between imports and exports showed that the EU imported 8.4 euros of magnesium for every euro it exported. The same ratio for volumes was 12.9 reflecting the higher price for exports than for imports.

thumb|centre|700px|Table 2: Largest partners of imports of magnesium by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/bf9e756f-dac2-4441-aa0b-f0defe782da5?lang=en&createdAt=2026-06-16T05:48:36Z Eurostat ds-045409]|alt=Table showing the three largest importers of magnesium and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Ferro-niobium

Ferro-niobium is an important iron-niobium alloy, mainly used in the automotive, construction and steel industry. Ferro-niobium is considered a critical raw material, not only due to its supply risk but also due to its economic importance for the EU and limited substitutability by other raw materials.

Between 2019 and 2025, imports and exports of ferro-niobium were fairly stable (see Figure 4). However, import prices rose from € 19.2 per kg to € 24.5 per kg and export prices rose from € 19.2 per kg to € 27.2 per kg.

Figure 4For its imports of ferro-niobium, the EU was very dependent on Brazilian imports which made up 83% of all ferro-niobium imports into the EU. Brazil was followed at some distance by Canada from where 17% of EU imports of ferro-niobium originated (see Table 3). The ratio between imports and exports is high, equaling 11.5, which means that the EU imported 11.5 euros of ferro-niobium for each euro it exported.

thumb|centre|700px|Table 3: Largest partners of imports of ferro-niobium by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/8d10a994-f54b-46c3-836d-e325f7cd1d34?lang=en&createdAt=2026-06-15T07:32:27Z Eurostat ds-045409]|alt=Table showing the three largest importers of ferro-niobium and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Borates

Borates are mainly used in glass and ceramics, detergents and cleaning products, agriculture, wood treatment, and industrial applications such as metallurgy and flame retardants. Borates can also be found in many automotive parts, notably in many components for electric cars, playing a key role for the transition of the EU to green mobility.

Between 2023 and 2025, EU imports of borates rose from 423 thousand tonnes to 456 thousand tonnes while exports rose from to 42 tonnes to 46 thousand tonnes. In 2025, for every tonne exported, the EU imported 10 tonnes. But, since export prices were 2.7 times higher than import prices, the same ratio in value was 3.7. Unfortunately due to partial data confidentiality, data prior to 2023 is not comparable with later data.

Figure 5Türkiye is the largest origin for 6 of the 10 borates shown in Table 4 and also occurs as 1 of the top-3 partners for all but 1 of the other borates. Overall, 73% of borates originated from Türkiye, followed by the United States with 15% and China with 6%.

thumb|centre|700px|Table 4: Largest partners of imports of borates by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/9524dec3-af7a-44a5-a62b-4c87d9b13ebd?lang=en&createdAt=2026-06-15T07:30:18Z Eurostat ds-045409]|alt=Table showing the three largest importers of borates and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Gallium

Gallium compounds are widely used in smartphones, satellites, radar systems, LEDs and photovoltaics.

Imports of gallium increased from 26 tonnes in 2019 to 51 tonnes in 2022 (see Figure 6). In the same period exports increased from 4 tonnes to 29 tonnes. However, between 2022 and 2025 both imports (-56%) and exports (-74%) fell sharply due to Chinese export restrictions. This (expected) tightening of the market, caused both import and export prices of gallium to increase strongly in 2022 and they continued to increase in the following years.

Figure 6For its imports of gallium, the EU was extremely dependent on Chinese imports being the origin of 77% of all gallium imports into the EU in 2025 (see Table 5). Canada and the United States were the next largest partner with 11% and 3% respectively.

thumb|centre|700px|Table 5: Largest partners of imports of gallium by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/4879f843-4ad8-49be-b748-7e77ec03de0e?lang=en&createdAt=2026-06-15T07:42:10Z Eurostat ds-045409]|alt=Table showing the three largest importers of gallium and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Antimony

Antimony trioxide is used in flame retardants. It is also alloyed with lead to produce batteries used in vehicles, back-up power systems and other industrial applications.

Imports of antimony fell from 25 thousand tonnes in 2019 to 21 thousand tonnes in 2025 (see Figure 7). In the same period exports increased from 8.1 thousand tonnes to 12.9 thousand tonnes. Both import and export prices of antimony increased strongly between 2019 and 2025 as a result of Chinese export controls. The largest annual price increase occurred between 2024 and 2025 when import prices increased by 167% and export prices by 180%.

Figure 7EU imports of antimony, came primarily from Tajikistan, being the origin of 52% of all antimony imports into the EU in 2025 (see Table 6). Vietnam and Myanmar followed with 12% and 9% respectively. China's share dropped from 16% in 2024 to 3% in 2025.

thumb|centre|700px|Table 6: Largest partners of imports of antimony by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/71863f39-bd80-4e4a-8fb2-ad4482032e89?lang=en&createdAt=2026-06-18T09:42:04Z Eurostat ds-045409]|alt=Table showing the three largest importers of antimony and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Natural graphite

Natural graphite is used in steel production and as a dry lubricant in mechanical applications. It is also a key material in the production of lithium-ion batteries, commonly used in electric vehicles (EVs) and portable electronics.

EU natural graphite imports increased from 98.3 thousand tonnes in 2019 to a peak of 162.7 thousand tonnes in 2023, before declining sharply to 67.2 thousand tonnes in 2025. Over the same period, import prices rose from € 0.8/kg in 2023 to € 1.4/kg in 2024-2025.

This trend coincides with China's tightening of graphite export controls since late 2023. As the dominant global supplier, China's policies have contributed to supply uncertainty, lower import volumes, and higher prices in the EU market.

Figure 8China (43%) was the main origin of EU imports of natural graphite as shown in Table 7. Madagascar (18%) and Brazil (13%) were the next largest partners. The ratio between imports and exports shows that the EU imported 5.5 tonnes of natural graphite for each tonne it exported.

thumb|centre|700px|Table 7: Largest partners of imports of natural graphite by product code in 2025 in value *Source:* [https://ec.europa.eu/eurostat/databrowser/bookmark/c96587a3-91f8-419c-ba38-cfccc3b4b814?lang=en&createdAt=2026-06-15T07:48:12Z Eurostat ds-045409]|alt=Table showing the three largest importers of natural graphite and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Copper

Copper is a chemical element with applications in electrical equipment, construction, transport, renewable energy systems and digital technologies because of its high electrical and thermal conductivity. Although copper is widely used and mined globally, it has been included in the EU Critical Raw Materials list because growing demand and supply risks at mining and refining stages may increase the EU's vulnerability, particularly in view of the metal's essential role in electrification and the energy transition.

EU copper imports rose strongly in value from € 10.7 billion in 2019 to € 17.2 billion in 2025, despite import volumes remaining broadly stable at around 4.3-4.9 million tonnes. This shows that the increase was driven mainly by higher prices, with the import price per kg climbing from € 2.4 in 2019 to € 3.9 in 2025. After easing in 2023, import values recovered in 2024 and reached a new peak in 2025. Over the same period, EU copper exports also increased, but remained well below imports in both value and volume terms.

Figure 9EU imports of copper come from various origins with no single country having a share of more than 25% in total copper imports in value. The top 3 partners for EU imports of copper were Chile (23%), Democratic Republic of Congo (17%) and Brazil (15%). The value of EU imports of copper was almost 3 times as high as its exports.

thumb|centre|700px|Table 8: Largest partners of imports of copper_by product code in 2025 in value *Source:* [https://ec.europa.eu/eurostat/databrowser/bookmark/d3f56ce1-1771-485c-bf2d-9a9e9d06e344?lang=en&createdAt=2026-06-15T07:51:21Z Eurostat ds-045409]|alt=Table showing the three largest importers of copper and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Lithium carbonates

Lithium carbonates are lithium compounds primarily used in rechargeable batteries, glass and ceramics, and certain chemical applications. Although lithium resources are found in several parts of the world and demand has grown rapidly with the expansion of battery technologies, lithium has been included in the EU Critical Raw Materials list because of the EU's high import dependence and the supply risks linked in particular to mining and refining capacities outside the EU.

EU lithium carbonates imports have shown strong volatility, with volumes declining from 15.0 thousand tonnes in 2019 to 8.2 thousand tonnes in 2025. Import prices surged from € 6.1/kg in 2021 to a peak of € 30.6/kg in 2023, before falling to € 11.6/kg in 2025 as lithium market conditions eased. Despite lower volumes, the sharp price increase in 2022-2023 drove import values to record levels, highlighting the impact of price fluctuations on the lithium supply chain.

Figure 10Chile (70%) was by far the largest supplier of lithium carbonates to the EU. It was followed at a distance by Argentina (11%) and the United States (7%).

thumb|centre|700px|Table 9: Largest partners of imports of lithium by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/fb5bbdd9-13f7-4f71-a81f-6e56061b6fb1?lang=en&createdAt=2026-06-18T09:46:41Z Eurostat ds-045409]|alt=Table showing the three largest importers of lithium and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Ferro-tungsten

Ferro-tungsten is an alloy of iron and tungsten used mainly in the steel and metalworking industries to produce high-performance tool steels, wear-resistant materials and other specialised alloys. Although tungsten occurs naturally in the earth's crust, ferro-tungsten has been included in the EU Critical Raw Materials list because the EU relies heavily on imports and faces a high supply risk, especially due to the strong concentration of extraction and processing in a limited number of countries.

EU ferro-tungsten imports fluctuated over 2019-2025, falling from € 51.0 million in 2019 to € 42.4 million in 2020, then rising to a peak of € 63.0 million in 2025. Import volumes, however, declined overall from 2 390.8 tonnes in 2019 to around 1 862.1 tonnes in 2025, despite a brief recovery in 2021. The growth in import value was mainly driven by higher prices rather than larger volumes with average import prices increasing from € 21.3/kg in 2019 to € 33.8/kg in 2025, the highest level in the period.

Figure 11The EU depended heavily on China for imports of ferro-tungsten. China was the top partner with 68% of the value of imports, followed by Viet Nam (21%) and Kazakhstan (8%).

thumb|centre|700px|Table 10: Largest partners of imports of ferro-tungsten by product code in 2025 in value
Source: [https://ec.europa.eu/eurostat/databrowser/bookmark/29bb49df-f7ca-4103-b546-5163ea0190ca?lang=en&createdAt=2026-06-15T07:38:44Z Eurostat ds-045409]|alt=Table showing the three largest importers of ferro-tungsten and their share in total extra-EU trade as well as the import to export ratio; all by product code and total in 2025. For more details, see the link to the dataset below.

Source data for tables and graphs

- Download Excel file 20px|link=

Data sources Trade data is taken from Eurostat's COMEXT database. COMEXT is the reference database for international trade in goods. It provides access not only to both recent and historical data from the EU countries but also to statistics of a significant number of non-EU countries. International trade aggregated and detailed statistics disseminated via the Eurostat website are compiled from COMEXT data according to a monthly process.

Table 8 provides the detailed description of the product codes used in this article. thumb|centre|700px|Table 8: Product codes for each material
Source: [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L:2018:273:FULL&from=EN Official Journal L273] and [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L:2021:385:FULL&from=EN Official Journal L385]|alt= Table showing product codes and details for each material mentioned in the article. For more details, see the link to the dataset below.

Context

Raw materials are crucial to Europe's economy. They form a strong industrial base, producing a broad range of goods and applications used in everyday life and modern technologies. Reliable and unhindered access to certain raw materials is a growing concern within the EU and across the globe. To address this challenge, the European Commission has created a list of critical raw materials (CRMs) for the EU, which is subject to a regular review and update. CRMs combine raw materials of high importance to the EU economy and of high risk associated with their supply.

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External links

- European Commission - DG Trade
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