EU TRADE EXPLORER

Market evolution: Spraying and projecting machinery (CN 8424) — 2015–2025

Introduction

This report examines the trade dynamics of the European Union in mechanical appliances for projecting, dispersing or spraying liquids and powders (CN 8424) with non-EU partners over the period 2015–2025. The heading covers a wide range of products, from fire extinguishers and spray guns to steam-blasting machines, agricultural sprayers and their parts. The analysis draws exclusively on the monthly customs statistics aggregated to annual frequency, focusing on the 2015–2025 window. The data reveal a decade of robust value growth, a marked realignment of trading partners, and a structural shift in the composition of both exports and imports, characterised by a steep rise in unit values on the export side and volume-driven expansion on the import side.

1. Divergent Pathways: Price-led Export Growth versus Volume-driven Import Surge

The overall trade figures show a clear dichotomy. While exports advanced in value terms, they did so almost entirely through higher unit prices; imports, in contrast, expanded on the back of surging volumes with virtually no price pressure.

Exports achieved a 36 % value increase despite a 4 % decline in shipped quantities

Between 2015 and 2025 the EU's extra-EU exports of CN 8424 products rose from €3.17 billion to €4.32 billion, a gain of 36.3 % (EU trade overview). Over the same period, however, the quantity exported fell from 219.8 thousand tonnes to 211.3 thousand tonnes (−3.9 %). Consequently, the average unit value obtained by EU exporters jumped by 41.8 %, from €14,411 to €20,434 per tonne. This pattern highlights the increasing sophistication and added value of the exported machinery; producers were able to command significantly higher prices even while shipping lighter volumes.

Year	Exports (EUR bn)	Quantity (k tonnes)	Unit value (EUR/ tonne)	Imports (EUR bn)	Quantity (k tonnes)	Unit value (EUR/ tonne)	Balance (EUR bn)
2015	3.17	219.8	14,411	1.61	195.5	8,227	1.56
2020	3.30	223.2	14,775	1.98	251.6	7,855	1.30
2025	4.32	211.3	20,434	2.61	320.8	8,122	1.71
Source: computed from the headline trade series; 2020 unit values are value divided by quantity.							

Imports expanded by 62 % in value, propelled by a 64 % jump in volumes

Import value climbed even faster, from €1.61 billion to €2.61 billion (+62.0 %), but this was achieved through a massive increase in the volume of goods arriving in the EU. The imported quantity soared from 195.5 k tonnes to 320.8 k tonnes (+64.1 %), while the average import unit price remained essentially flat, edging down from €8,227 to €8,122 per tonne (−1.3 %). This suggests that EU buyers have sourced larger amounts of relatively standardised, cost-competitive products from outside the bloc.

A widening trade surplus highlights the EU’s pricing power in global markets

Despite the faster growth of imports, the EU’s trade balance in this product group remained strongly positive and expanded slightly from €1.56 billion to €1.71 billion (+9.9 %). The surplus peaked in 2022 at €1.90 billion before easing back. Combined with the divergent price-volume trends, this persistent surplus underlines the EU’s ability to sell high-value machinery abroad while satisfying a growing domestic demand for lower-cost imported goods.

2. The Great Rebalancing: Sanctions, Sourcing Shifts and the Rise of New Trading Partners

The partner landscape changed dramatically over the decade. The two most striking developments are the collapse of exports to Russia and the continuously rising import concentration on China, alongside new supply chains from Turkey and the Gulf.

The Russian market was virtually shut down by sanctions, slashing exports by 69 %

In 2015 Russia was the third-largest extra-EU destination for CN 8424 exports, absorbing goods worth €256 million. Following the successive waves of sanctions after 2014 and especially after 2022, exports fell to only €79 million in 2025 (−69.1 %). The steep reduction is also visible in volume terms. Russia’s share in EU exports thus collapsed, a permanent structural break that was only partly offset by gains elsewhere.

China tightened its grip as the EU’s largest supplier, amplifying import concentration

China’s role as a source of these mechanical appliances grew relentlessly. Imports from China rose from €663 million in 2015 to €1,228 million in 2025 (+85.1 %), giving it a dominant 47 % share of extra-EU imports by the end of the period. This corresponds to an increase in the Herfindahl-Hirschman Index (HHI) for import value from 2,393 to 2,704 (+13.0 %) (market concentration), confirming greater supplier concentration. In contrast, the HHI for exports edged down from 596 to 565 (−5.2 %), meaning the EU sells to a slightly more diversified set of customers.

Turkey and the United Arab Emirates saw explosive import growth, rivalling traditional partners

Among the far smaller suppliers, two stand out for their dynamism. EU imports from Turkey jumped from €10.9 million to €64.2 million (+488.9 %), and those from the UAE from €2.9 million to €34.7 million (+1,110.6 %). While their absolute values remain modest, the rapid expansion signals a diversification of sourcing channels, possibly linked to the relocation of certain production stages. Switzerland and the United Kingdom also recorded solid increases of 32 % and 42 % respectively, maintaining their positions as important suppliers.

Top extra-EU import partners – value evolution

Partner	2015 (EUR m)	2025 (EUR m)	Change (%)
China	663	1,228	+85.1
United States	336	444	+32.1
Switzerland	174	230	+32.3
United Kingdom	162	230	+41.5
Israel	74	74	+0.9
Türkiye	11	64	+488.9
United Arab Emirates	3	35	+1,110.6

Source: top partners overview

Demand from the United States, the United Kingdom and Switzerland sustained export momentum

On the export side, the United States remained the principal market, growing from €363 million to €598 million (+65.1 %), while the United Kingdom (€317 m to €499 m, +57.3 %) and Switzerland (€155 m to €245 m, +57.4 %) also posted strong gains. Together with Morocco (+34.1 %) and Mexico (+3.8 %), these partners absorbed the bulk of the EU's higher-value exports and compensated for the loss of the Russian market. Exports to China, in contrast, fell by 15.8 % from €434 million to €366 million, underscoring the increasingly asymmetric trade relationship in this product group.

3. Inside the Machinery: Product Segments and EU Industrial Specialisation

The aggregate trends are underpinned by pronounced shifts in the composition of trade across the seven sub-headings of CN 8424, as well as by a highly concentrated production base within the EU.

A handful of Member States – led by Germany and Italy – dominate EU output and extra-EU exports

The production of these appliances is far from evenly distributed. In 2025, Germany alone accounted for 33.8 % of the EU's extra-EU exports of CN 8424, and Italy for 17.1 % (top reporters). The revealed symmetric comparative advantage (RSCA) confirms a strong specialisation pattern: Italy (0.36), Germany (0.23), Denmark (0.17), Luxembourg (0.35) and Cyprus (0.52) display a notable relative advantage in this sector, whereas many Eastern and peripheral EU countries show negative RSCA values (specialisation map). Total EU production value grew from €4.50 billion to an estimated €6.33 billion between 2015 and 2024 (+40.9 %), while production volume rose 12.4 %, indicating that the sector itself has experienced notable value deepening (production volumes).

High-value parts and "other mechanical appliances" power the export portfolio

Two sub-headings dominate extra-EU exports. "Parts" (CN 842490) generated €1.24 billion in 2025, up from €0.81 billion in 2015 (+53.9 %), with export unit values reaching €28,006/tonne. The category "Other mechanical appliances" (CN 842489) brought in €1.10 billion (+26.9 %), at unit values exceeding €35,000/tonne by 2025. Together these two segments represented more than half of total export value. In contrast, bulkier items such as steam/

sand blasting machines (CN 842430) saw a modest value rise (+8.0 %) but a notable decline in tonnage (−19.6 %), pushing unit values up to €18,462/tonne. Agricultural non-portable sprayers (CN 842449) more than doubled in value (to €321 million), reflecting buoyant demand abroad. This composition illustrates the EU's export strategy of supplying complex, high-priced components and advanced machinery.

Key export segments – value in EUR million

CN code	Description	2015 (EUR m)	2025 (EUR m)	Change (%)
842490	Parts	809	1,244	+53.9
842489	Other mechanical appliances n.e.s.	864	1,097	+26.9
842430	Steam/sand blasting machines	648	700	+8.0
842410	Fire extinguishers	231	344	+48.5
842420	Spray guns	198	272	+37.5
842482*	Agricultural mechanical appliances	259	282	+8.8
842449*	Agricultural sprayers (non-portable)	130	321	+146.8

Note: 842482 and 842449 values are shown for 2017 and 2025 due to data availability; the change is calculated over 2017–2025. Source: product segment comparison

Imports reflect strong demand for blasting machines, fire extinguishers and agricultural sprayers

On the import side, parts (842490) also recorded the highest value (€757 million, +53.2 %), but the fastest growth rates were found in steam/sand blasting machines (842430, +70.8 %), portable agricultural sprayers (842441, +74.0 % since 2017) and fire extinguishers (842410, +131.6 %). The average import price of blasting machines, however, remained around €6,745/tonne in 2025, far below the export unit value of the same sub-heading, confirming that the EU imports lower-cost models and exports premium ones. This segmentation mirrors the broader pattern: the EU's external trade in CN 8424 is increasingly characterised by intra-product specialisation, where similar product classes are both imported and exported but at very different quality and price points.

Conclusion

The 2015–2025 period transformed the EU's external trade in spraying and projecting machinery into a larger, more value-intensive and geopolitically reshaped market. Export value grew by over a third, entirely driven by price gains, while imports expanded by nearly two-thirds on the strength of volumes, leaving the substantial trade surplus intact. The partner structure was reshuffled: sanctions erased Russia as a major destination, China became overwhelmingly dominant on the import side, and new suppliers like Turkey and the UAE emerged. Inside the EU, production and exports remain concentrated in Germany, Italy, and a handful of other specialised economies, with the export basket skewing ever more toward high-value parts and advanced appliances. These dynamics point to a sector that has successfully moved up the value chain and deepened its integration into global supply networks, but that also faces a high concentration of import supply and a continued reliance on a limited number of external markets for its premium exports.

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