Market evolution: Recording media (CN 8523) — 2015–2025

Introduction

The product group CN 8523 comprises discs, tapes, solid-state non-volatile storage devices, “smart cards” and other media for recording sound or other phenomena, whether or not recorded, excluding products of Chapter 37. Over the decade 2015–2025 the European Union’s extra-EU trade in this sector underwent a profound transformation: a small nominal surplus turned into a sizeable deficit, volumes collapsed while unit values more than doubled, and the centre of gravity of both imports and exports shifted dramatically towards Asia and the United States. This report identifies and explains those dynamics in three sections, drawing exclusively on the EU Trade Dashboard.

1. A Sector Turned Upside Down: From Trade Surplus to Chronic Deficit

EU extra-EU trade in recording media swung from a surplus of €0.48 billion in 2015 to a deficit of €0.88 billion in 2025.

The headline figures are striking. Exports grew modestly from €4.93 billion to €5.34 billion (+8.5 %), while imports surged from €4.45 billion to €6.22 billion (+39.8 %). The net result was a reversal of a positive trade balance of €476 million into a shortfall of €878 million (–284 %). Even more pronounced is the net import reliance indicator, which moved from –1.9 % (the EU was a net exporter) to 31.2 % in 2024, meaning that almost a third of domestic apparent consumption now comes from outside the Union. Full details can be inspected on the Overview page.

While traded volumes contracted sharply, unit values more than doubled, indicating a shift towards higher-value products.

Physical quantities moved in the opposite direction. Export tonnage fell from 57 597 t to 36 079 t (−37.4 %) and import tonnage from 54 461 t to 28 694 t (−47.3 %). The implied average price per kilogramme consequently soared: export unit values rose 73.1 % (from €85 215 /t to €147 520 /t) and import unit values jumped 165.3 % (from €81 692 /t to €216 727 /t). This decoupling of value and volume signals a decisive move away from bulky, low-value carriers (e.g. unrecorded optical discs) towards compact, high-capacity solid-state memories.

Indicator	2015	2020	2025	Change 2015–2025
Exports (€ bn)	4.93	4.04	5.34	+8.5 %
Imports (€ bn)	4.45	4.55	6.22	+39.8 %
Trade balance (€ bn)	+0.48	–0.51	–0.88	–284 %
Net import reliance (%)	–1.9*	35.7	31.2 (2024)	turning positive
Export quantity (kt)	57.6	50.5	36.1	–37.4 %
Import quantity (kt)	54.5	40.5	28.7	–47.3 %
Export price (€ /t)	85 215	79 973	147 520	+73.1 %
Import price (€ /t)	81 692	112 456	216 727	+165.3 %

*Figure for 2015 refers to the last available surplus year; 2024 value is 31.2 %. Sources: headline trade, net import reliance.

Domestic production expanded substantially, but could not keep pace with import demand.

EU production of recording media (predominantly smart cards and solid-state storage) rose from 951 million units in 2003 to an estimated 4 502 million units in 2024, and in value terms from €1.54 billion to €4.36 billion (+182.7 %). Despite this upswing, the import bill grew even faster, pushing the EU into a structural trade deficit. The production volume dashboard confirms that the growth of domestic output was insufficient to satisfy the swelling appetite for advanced flash memory.

2. Asia’s Manufacturing Might and the US Tech Pull: Reshaping EU Partner Dynamics

The Republic of Korea emerged as the EU’s largest supplier of recording media, with imports multiplying by ten.

The partner landscape on the import side was reordered by the meteoric rise of Korea, whose shipments soared from €127 million in 2015 to €1 339 million in 2025 (a surge of 955.1 %). Taiwan also more than doubled its sales (from €430 million to €852 million), while China remained the largest single source, growing modestly from €1 184 million to €1 229 million (+3.8 %). Meanwhile, the United Kingdom—still a major supplier in 2015 at €1 143 million—collapsed to just €184 million (−83.9 %) after Brexit. This broad-based diversification is reflected in a falling import concentration (HHI value fell 22.8 %). Detailed partner-level data are available under top partners by value.

Import partner	2015 (€ mn)	2025 (€ mn)	Change (%)
China	1 184	1 229	+3.8
Korea, Republic of	127	1 339	+955.1
Taiwan	430	852	+98.3
United Kingdom	1 143	184	–83.9
United States	513	402	–21.7
Japan	244	206	–15.4

The United States became the top export market, driven by demand for high-capacity solid-state storage.

EU exports were increasingly absorbed by two major economies: the United States and China. Shipments to the US more than doubled from €471 million to €1 202 million (+155.3 %), while those to China grew by 169.9 % to €818 million. In contrast, exports to the United Kingdom shrank from €1 422 million to €659 million (−53.6 %), and traditional European partners such as Switzerland (−59.3 %) and Norway (−60.6 %) recorded steep declines. Export concentration remained practically unchanged (HHI +1.3 %), indicating a stable, but now differently oriented, set of destinations.

Export partner	2015 (€ mn)	2025 (€ mn)	Change (%)
United Kingdom	1 422	659	–53.6
United States	471	1 202	+155.3
Switzerland	382	156	–59.3
China	303	818	+169.9
Türkiye	130	80	–38.1
Norway	158	62	–60.6

The United Kingdom’s share plummeted after Brexit, fundamentally altering traditional trade flows.

The sharp drop in British imports (from €1.14 bn to €0.18 bn) and exports (from €1.42 bn to €0.66 bn) highlights the profound impact of the UK’s departure from the single market. The decline was particularly abrupt for imports after the transition period ended: British volumes fell from 16 019 t in 2015 to 3 412 t in 2025, underlining the sector’s reorientation away from the UK as a distribution hub.

Import volatility was highest for China, reflecting a dramatic but short-lived spike in 2022.

The coefficient of variation (CV) for import quantities reached 0.94 for China, the largest among major suppliers. Chinese shipments jumped from 11 859 t in 2021 to 68 851 t in 2022 before falling back to 9 330 t in 2025, accompanied by a price shock where unit prices temporarily plunged 36.6 % and then rebounded. Other important price shocks include a 23.2 % drop in import prices from the United States in 2021 and a 42.5 % upward shock from Japan in 2019. These events underscore the sector's exposure to supply-side instability and rapid technological shifts.

3. The Memory Revolution: Flash and Smart Cards Eclipse Traditional Media

Solid-state non-volatile storage (flash memory) transformed from a significant import category into the EU's single largest import segment, now exceeding €4.7 billion.

The product breakdown (see the product compare dashboard) reveals that imports of CN 852351 (solid-state flash memory cards and storage devices) grew from €2.41 billion to €4.69 billion, almost doubling their value while the imported tonnage halved. The average price per kilogramme exploded from €277 108 /t to €1 079 611 /t, demonstrating the ever-higher data density of modern chips. Smart cards (852352) also expanded (from €0.56 bn to €0.81 bn). In stark contrast, recorded optical media (852349) shrank from €0.90 bn to €0.33 bn, unrecorded optical media (852341) dropped from €0.12 bn to €0.02 bn, and magnetic media (852329) declined steeply.

Recorded optical media (CDs, DVDs) collapsed as streaming supplanted physical formats.

Exports of 852349 plummeted from €2.75 billion to €1.45 billion, and import values fell by two-thirds. The steep decline in both quantity and value for optical media is consistent with the global shift towards digital distribution and streaming services. Unrecorded optical discs followed a similar path, becoming nearly negligible by 2025.

Smart card trade grew steadily, reflecting digital identity and payment applications.

Both imports and exports of 852352 (cards with integrated circuits) rose, though at a more measured pace. The supplementary unit data (pieces) show that import volumes soared from 1 545 million pieces to 3 265 million pieces, while the average unit price fell from €0.36 to €0.25, indicating commoditisation in basic card applications alongside growing volumes.

Flash memory dominated the export basket as well, reaching 49 % of total export value in 2025.

Exports of solid-state storage (852351) rose from €1.00 billion to €2.60 billion, and together with smart cards (€0.80 bn) they now account for the majority of EU extra-EU exports. The unit value (price per kg) for exported flash memory reached €937 914 /t, reflecting the same densification observed on the import side. While the value of optical media exports still exceeded €1.4 billion in 2025, its share of the total export basket continues to shrink.

EU production concentrated on smart cards and flash memory, with the Netherlands and Germany acting as key hubs.

The specialisation map for 2025 shows that Malta, Austria, Czechia, the Netherlands and France are the most specialised reporters (top RSCA scores). The Netherlands alone accounted for 25.6 % of intra-EU reporting of this product group, and its extra-EU imports grew 106 % to €2.43 billion, while exports surged 107 % to €1.77 billion, underscoring its role as a logistics and distribution centre for high-value electronics.

Conclusion

The EU's market for recording media experienced a decade of radical change. The combination of declining legacy formats, surging demand for dense solid-state storage, and a rapid re-balancing of trade partners transformed the bloc from a net exporter into a structurally deficit sector. Asia's semiconductor powerhouses, notably Korea and Taiwan, now supply an ever-larger share of the EU's flash memory needs, while the United States and China have become the premier destinations for EU exports of similar advanced products. The steep rise in unit values and the volatility of supply chains underline the sector's technological dynamism but also its vulnerability. With net import reliance exceeding 30 %, the recording media segment illustrates the broader challenges of technological sovereignty and supply-chain resilience that the European Union must navigate in the years ahead.

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