

Market evolution: Electrical measuring instruments (CN 9030) — 2015–2025

Introduction

The product group CN 9030 covers oscilloscopes, spectrum analysers, and a wide array of instruments for measuring or checking electrical quantities, together with apparatus for detecting ionising radiations. This report examines the European Union's extra-EU trade in these goods from 2015 to 2025, using annual data. Over the period, the EU strengthened its position as a net exporter, but the story is far more nuanced: a massive domestic production scale-up, divergent price trends, shifting partner patterns, and a series of price and supply shocks have reshaped the sector's profile. The analysis draws exclusively on the figures provided by the trade dashboard.

Export value surge and price polarisation

Extra-EU export values nearly double while imports climb more slowly, widening the surplus

The EU's extra-EU exports of CN 9030 jumped from €2.65 billion in 2015 to €5.13 billion in 2025, an increase of 93.2 %. Imports rose by 60.9 %, from €1.66 billion to €2.67 billion. As a result, the trade surplus more than doubled, expanding from €0.99 billion to €2.45 billion (EU trade overview).

Indicator (€ million)	2015	2025	Change (%)
Exports	2 653	5 126	+93.2
Imports	1 662	2 675	+60.9
Balance	991	2 452	+147.5

Export unit values surge by over 50 % while import prices stagnate

The diverging price dynamics are striking. The average export price per unit grew from about €259 900 in 2015 to €401 500 in 2025 (+54.5 %). In contrast, the average import price remained almost flat, moving from €178 400 to €187 500 (+5.1 %). This suggests that the EU is selling increasingly sophisticated, high-value instruments while sourcing a growing volume of lower-priced items from abroad.

Partner dynamics: the US stays the foremost market, but Malaysia becomes an export powerhouse

The United States remained the top destination for EU exports (€542 million in 2015, €966 million in 2025, +78.3 %), closely followed by China (€482 million to €733 million, +52.2 %). The most dramatic shift occurred with Malaysia, where exports rocketed from €93 million to €621 million, a 565 % jump that mirrors the semiconductor test equipment boom (Top extra-EU partners).

On the import side, China became the largest supplier by value (€221 million to €463 million, +109 %), followed by the United States and Malaysia.

The production boom that rewrote export propensity

Domestic output multiplies while export propensity collapses

EU production of CN 9030 goods expanded massively: the quantity produced soared from 597 333 units in 2015 to 11 267 472 in 2024 (+2 486 %), and production value rose from €5.16 billion to €7.50 billion (+205 %). This scaling-up, partly fuelled by semiconductor-related investments, drastically altered the trade orientation of the industry (EU production volumes).

Export propensity (exports divided by production) plummeted from 91.4 % in 2015 to just 22.5 % in 2024, meaning a far larger share of domestic output is now absorbed within the EU rather than shipped abroad (Export propensity). Trade intensity likewise dropped from 103.3 % to 30.6 %.

Specialisation hotspots: small economies punch above their weight

In 2025, the most specialised EU exporters (by revealed symmetric comparative advantage) were Romania (RSCA 0.509), Estonia (0.445) and Austria (0.378). Although Germany accounts for the largest share of EU exports (32.4 %), its RSCA is a moderate 0.210, reflecting a more diversified export basket (Revealed comparative advantage by Member State). Italy, despite its huge absolute growth in exports (+328.7 % over the decade), displays a negative RSCA (−0.228), indicating that this product group remains small relative to its overall exports.

Shocks, volatility and the building-blocks of risk

Price shocks on imports: China and the UK create cost waves

The data reveal several abrupt price movements. In 2020, the average unit price of Chinese imports fell by 29.3 % while the shipped quantity surged by 56 %, pointing to a major shift in product mix or aggressive pricing. The UK, in the wake of Brexit, saw an import price spike of 48.7 % in 2021, making it one of the most expensive European suppliers for these instruments (Detected price and supply shock events).

Geopolitical rupture: EU exports to Russia collapse

The EU's export quantity to Russia shrank by 97.8 % after 2022, with average unit values becoming erratic. The value share that Russia once represented (1.7 % of EU exports) virtually vanished, highlighting how sanctions can abruptly fragment a technology trade channel.

Import volume concentration rises among Asian suppliers

While the overall geographic concentration of import values (HHI) remained moderate and even edged down (−2.7 %), the concentration of import volumes climbed by 45.7 % (Market concentration). A handful of Asian partners—notably China, Malaysia, and Taiwan—account for an increasingly large share of the physical units entering the EU. Among these, Thailand (CV 1.22) and Morocco (CV 0.82) display the highest year-on-year volatility in import quantities (Volatility of trade quantities).

Conclusion

The EU's external trade in electrical measuring instruments has been marked by a robust and growing surplus, driven largely by exports of increasingly high-value devices. At the same time, a historic expansion of domestic production has fundamentally changed the sector's trade intensity: the EU now consumes most of what it manufactures, compressing export propensity to historical lows. Partner-wise, the United States remains key, but Malaysia's explosive rise and China's growing role in both imports and exports underline the central part that semiconductor supply chains play. The data also flag concrete risks—abrupt price shifts, geopolitical supply interruptions, and rising volume dependence on a few Asian economies—that call for continuous monitoring and strategic diversification.

Auto-generated report: it accelerates, and sometimes misleads, human analysis. It cannot replace it in full.

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