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PRESS RELEASE

New Fraunhofer study shows:

Almost every second e-cigarette in Europe comes from irregular sources

- For the first time, it has been possible to systematically record the irregular market for e-cigarettes in Europe.
- Around 48% of the EU market for e-cigarettes comes from irregular sources — 90% of which originate in China
- Market volume of irregular e-cigarettes around €6.6 billion—with an upward trend to €10.8 billion in 2030

Lucerne / Nuremberg / Hamburg, March 12, 2026. The European market for vapes, i.e., electronic vaporizers such as e-cigarettes, is facing a growing problem: almost half of the products come from irregular sources. This is shown by a new study by Fraunhofer IIS1, which comprehensively examines market structures, supply chains, and countries of origin for the first time. Around 90 percent of the irregular goods, estimated to have a total value of €6.6 billion, originate from China. The market is expected to grow to €10.8 billion by 2030.

"For the first time, we have succeeded in systematically mapping the irregular market for e-cigarettes in Europe—based on trade and supply chain analyses, customs statistics, and market segmentation," explains Uwe Veres-Homm, Head of Risk and Location Analysis at Fraunhofer IIS. "Our analyses show that around 90 percent of e-cigarettes for Europe originate from China."

According to the study, 48 percent of the European e-cigarette market, representing a volume of 6.6 billion euros, is accounted for by the irregular trade. Irregular products are defined as gray and black market products that violate national tax regulations, labeling requirements, or approval regulations, or whose origin cannot be clearly traced. Of these, 35 percent can be clearly attributed to illegal trade; around 13 percent are private imports of unapproved or untaxed products.

Impact on the state, consumers, and the economy

- Governments and the EU lose millions of euros every year.
- Legal retailers and manufacturers are massively disadvantaged.

In Germany alone, the estimated tax loss in 2024 was around €119 million. The irregular market continues to grow, at an estimated rate of 8.6 percent per year. For 2030, the authors of the study forecast an irregular market volume of €10.8 billion in Europe.

Supply chains and hubs

The main source of imports into the EU is China, with Shenzhen considered the dominant center. Around 72 percent of Chinese e-cigarette production takes place here, and 70 percent of vaping device manufacturers are based there. Germany, the Netherlands, and Belgium are central hubs for further distribution within Europe. From there, shipments are often transferred to trucks and transported across intra-European borders with less control. This allows irregular goods to enter the internal market and for taxes to be circumvented.

The volume of goods shipments arriving daily from China is proving particularly problematic. According to the EU Commission, around twelve million parcels arrived in the EU every day last year—significantly more than in the two previous years.

Consumers are also increasingly ordering directly from Asia. Platform providers benefit from the lack of uniformity in EU regulations.

Consumer protection cannot be guaranteed

"E-cigarettes from irregular sources circumvent consumer protection, quality controls, and are extremely profitable for manufacturers," says Horst Manner-Romberg, managing director of MRU Beratungs- und Verlagsgesellschaft mbH, which has collaborated with Fraunhofer IIS. "Price differences within the EU internal market create incentives also for smuggling and re-imports from neighboring countries and put legal suppliers under enormous pressure."

Differences in taxes and regulations create price disparities and a lack of transparency — gaps that unscrupulous market players exploit. "Uniform standards in licensing, product quality, and taxation could help reduce tax losses and strengthen consumer protection," says Uwe Veres-Homm.

Logistics as an involuntary accomplice

"Vape products reach the EU in standard packages. What looks like harmless shipments adds up to a shadow market worth billions," says Rico Back, managing partner of SKR AG, which commissioned the study. "The consequences for the economy and society are immense, and logistics is involuntarily at the center of the problem."

From a logistics perspective, greater transparency and close cooperation are crucial: "No customs authority in the world can check millions of packages without fail every day," explains Rico Back. "We need to make supply chains digitally traceable and work more closely with the countries of origin. Only when goods flows are transparent and networked can illegal imports be effectively curbed. If we add liquids to this mix, with separate packages that are difficult to control, the situation becomes even more explosive."

Stabilizing the market – act now

The study makes it clear that a blanket ban on e-cigarettes, as is currently being discussed publicly, is counterproductive. If legal distribution channels are completely eliminated, there is a risk that these shares will shift into the illegal sector. What is needed to effectively stabilize the market are three pragmatic steps that can be taken independently of political majorities:

- **Uniform definitions and product classifications:** Many distortions arise because identical products are recorded, classified, and taxed differently across EU member states. Uniform standards and a common data basis are prerequisites for effective regulation and tax collection.

- **Digital traceability and a central data platform:** Technologies for supply chain transparency, such as blockchain-based serialization or AI-supported risk assessment, can help distinguish legal goods flows from illegal ones. It is important that this data flows into a central, international platform that links production, import, consumption, and, above all, violations of regulations, thus enabling holistic market surveillance.

- **Cooperation with countries of origin:** Especially for mass-produced goods from China, the most effective control can be exercised before export—not just at import. Close cooperation between European and Asian authorities, coupled with a connection to the central data platform, could create transparency along the entire supply chain and curb illegal flows at the source.

[1] **About the study**
The study was conducted by the Fraunhofer Institute for Integrated Circuits IIS, Risk and Location Analysis Department, in cooperation with MRU GmbH. The study was commissioned by SKR AG, a management consultancy specializing in logistics. The aim of the analysis is to systematically record and evaluate the scope, origin structures, and economic impact of the irregular e-cigarette market in Europe for the first time on the basis of data.

Background information
(not part of the study)

What are e-cigarettes—what are vapes?

Vapes are electronic vaporizers that heat liquids and release them as vapor—without combustion. The liquids usually consist of nicotine, flavorings, and carrier liquids such as propylene glycol or glycerin.

The term "vape" covers various types of devices—from disposable products to refillable systems. E-cigarettes are the best-known category: they work on the same technical principle, but differ in design, performance, and market approval.

Consumers are confronted with health risks that are difficult to predict. Insufficient oversight and regulation of vaping products contributed for example to the widespread EVALI outbreak in the U.S., which, according to CDC data, resulted in 68 confirmed deaths.

The WHO warns that as many as 15 percent of e cigarette users are adolescents aged 13 -15, making Europe the region with the highest vaping prevalence among young people worldwide.

An additional point of worry, when talking about illicit products, is the proliferation of open-tank e-cigarettes, which leads to an additional layer of complexity in enforcement. The liquid itself becomes another piece to police, with additional complications when referring to product quality—with the obvious potential risks for consumers using non-compliant products. The extremely low production cost of 1 ml of liquid from unverified sources makes open tank products highly profitable. Rapid vape device modifications in China—such as recent open tank designs—allow manufacturers to bypass established tax regulations (e.g. tax per pod). Such devices can be purchased in Shenzhen through wholesalers at particularly favorable prices.

An important difference: while traditional tobacco products are uniformly subject to tobacco tax in the EU, e-cigarettes and liquids are still taxed according to different national regulations.

Media contact:
STROOMER PR | Concept GmbH, Rellinger Str. 64 a, 20257 Hamburg
Ina Schmaloske, e-mail: ina.schmaloske@stroomer.de, Phone: +49 40 / 85 31 33-24.