Documentation: *CIF Imports Overview by Country (2025)*

1. Project Context

- **Dataset Source:** UN Comtrade Plus (official trade statistics).
- **Scope:** U.S. semiconductor imports in 2025, focusing on CIF (Cost, Insurance, Freight) values.
- **Tools Used:**
    - **Python** → Exploratory Data Analysis (EDA), statistical validation, visualizations.
    - **SQL** → Independent validation, raw number extraction, precise market share calculations.
    - **Excel** → Pivot tables, CIF vs FOB gap analysis, validation layer.
    - **Power BI** → Final interactive dashboard for storytelling and stakeholder engagement.

2. Dashboard Components

- **KPI Cards:** Total CIF imports, dataset rows, FOB values, CIF–FOB gap.
- **Line Chart:** Monthly import values by exporter country (Jan–Dec 2025).
- **Donut Chart:** Market share distribution by country.
- **Bar Chart:** Transport value by exporter country.
- **Drill-through Pages:** Country-level profiles with transport mode breakdowns.

3. Methodology

- **Data Cleaning:** Removed zero-value transactions, standardized country codes, validated schema in SQL.

- **Cross-Validation:** Python, SQL, and Excel calculations matched to the penny.
- **Visualization Choices:**
    - Line charts for temporal trends.
    - Donut charts for market share clarity.
    - Bar charts for transport economics.
    - Conditional formatting in Power BI to highlight Malaysia's dominance vs. emerging markets.

Executive Summary: Pivotal Insights

1. Malaysia's Overwhelming Dominance

- **Market Share:** ~60.5% of all U.S. semiconductor imports in 2025.
- **Implication:** Structural dependency on Malaysia's supply chain. Reliable but risky (single point of failure).

2. Germany as the Western Alternative

- **Market Share:** ~10.2% overall, ~32% when Malaysia excluded.
- **Profile:** Premium, specialized chips, heavy reliance on air freight.
- **Takeaway:** Strong ally and fallback supplier, but limited scaling capacity.

3. Japan's Stability

- **Market Share:** ~7.8% overall, ~25% without Malaysia.
- **Profile:** Consistent, predictable, moderate volume.
- **Takeaway:** Reliable mid-tier supplier, steady partner for diversification.

4. Emerging Trio: Brazil, India, Israel

- **Brazil:** Balanced transport strategy, growing consistency, ~9% share without Malaysia.
- **India:** Cost leader, high shipment volume, ~8% share.
- **Israel:** Specialist, high-value shipments, ~5% share.

- **Takeaway:** Each fills a unique niche—volume, cost, specialization. Together, they form a diversification portfolio.

5. Hong Kong as China's Gateway

- **Insight:** Hong Kong exports more semiconductors to the U.S. than Shanghai.
- **Implication:** Routing strategy to bypass direct China–U.S. scrutiny.

6. Canada & Mexico Absence

- **Finding:** Virtually no presence in semiconductor exports to the U.S.
- **Implication:** USMCA proximity ≠ semiconductor trade relevance.

Clear Takeaway

The U.S. semiconductor import landscape in 2025 is **highly concentrated**, with Malaysia controlling the majority share. Germany and Japan provide reliable alternatives, while Brazil, India, and Israel represent **strategic growth opportunities** for diversification. Hong Kong's role highlights geopolitical complexity, and Canada/Mexico's absence challenges assumptions about regional trade.

Strategic Recommendation:

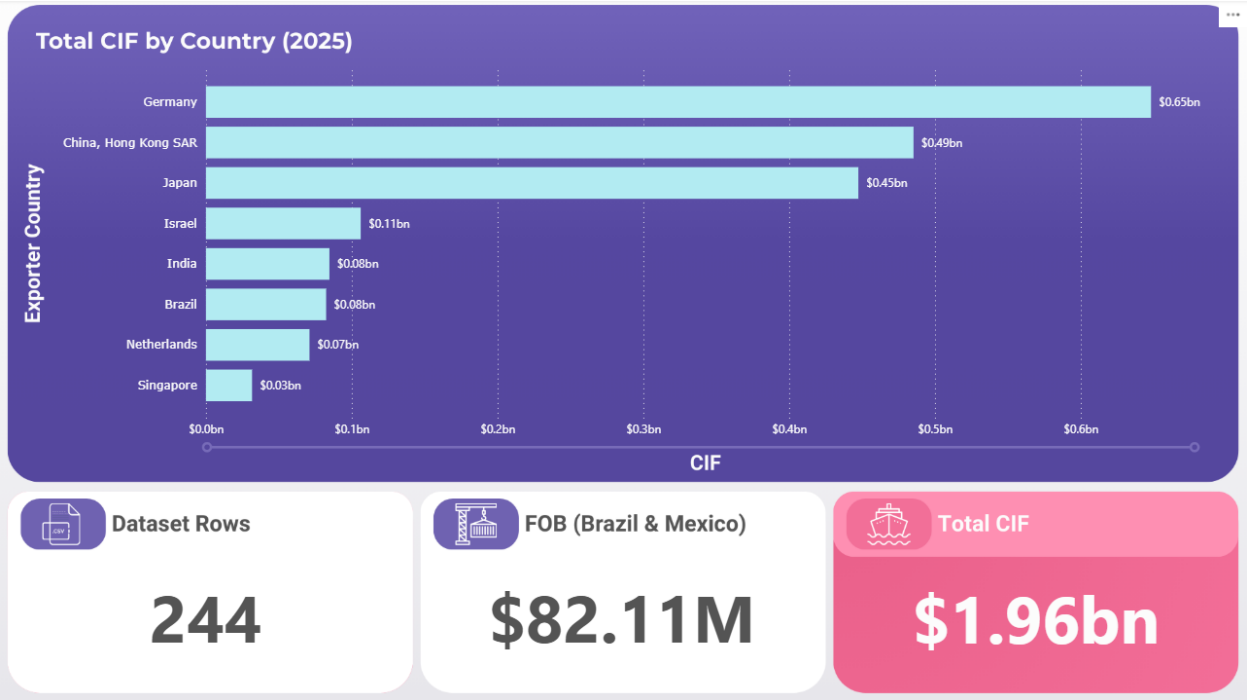
- Mitigate Malaysia dependency through diversification.
- Strengthen partnerships with Germany and Japan.
- Invest early in Brazil, India, and Israel to secure long-term resilience.
- Monitor Hong Kong's role in China–U.S. trade dynamics.

Data Source: UN Comtrade

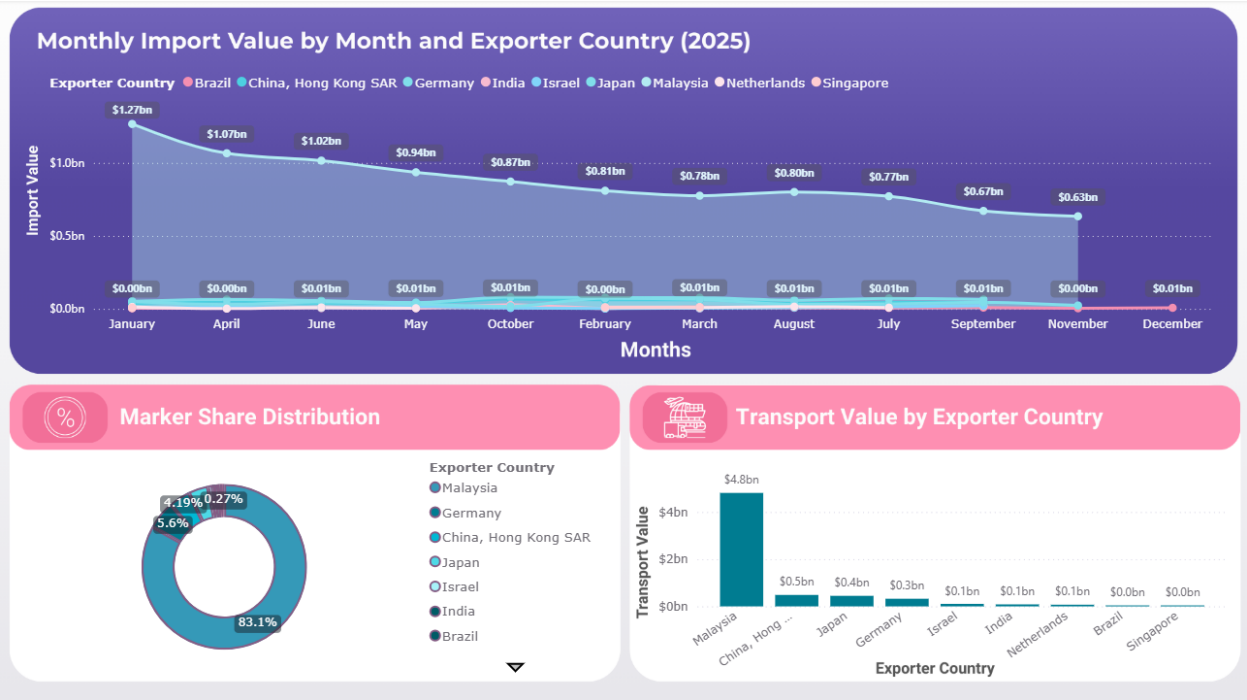
Dashboards:

Page 1 With Malaysia

Without Malaysia



Page 2 With Malaysia



Page 2 Without Malaysia