

# Trade in AI-Related Products

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## The AI Infrastructure Boom and Trade

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The U.S. is experiencing a massive AI-investment-driven boom — hundreds of billions of dollars invested in data centers and related AI infrastructure.

**This paper asks:** How is the AI boom influencing international trade flows?

**Answer:** Trade in AI-related products is *the* dominant force in U.S. trade flows over the past two years. This holds despite the dramatic changes in U.S. trade policy.

## This Talk

Six questions. . .

- How to classify AI-related products?
- What are AI-related products?
- How much trade in AI-related products?
- Where are these products coming from?
- How has trade policy treated AI-related products?
- Does this matter for the aggregate?

## How to Classify AI-Related Products?

Use an LLM to classify each of the ~18,000 HS10 commodity codes by relevance to AI data center infrastructure. Snippet of the prompt:

```
You are an expert in AI data center construction, operations, and supply chains. Your task is to classify products by their relevance to building and operating AI-focused data centers (hyperscale facilities running GPU clusters for training and inference).
```

```
Consider these categories of relevant products:
```

- COMPUTE: GPUs, CPUs, memory, PCBs, servers, storage drives
- NETWORKING: Fiber optics, switches, routers, transceivers
- COOLING: Chillers, cooling towers, CRAH units, fans, pumps
- ELECTRICAL: Transformers, switchgear, UPS, batteries, generators
- BUILDING: Structural steel, concrete, rebar, raised floors
- SPECIALTY MATERIALS: Rare earths, copper, aluminum...

Each HS10 code gets: **Relevance, Category, Confidence, and Reasoning.**

## How to Classify AI-Related Products? — An Example

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The LLM sees the HS10 description *and* the NAICS industry code:

```
HS10: 8542310040
Description: PROCESSORS (INCLUDING MICROPROCESSORS): GRAPHICS
PROCESSING UNITS (GPUS)
NAICS: 334413 --- SEMICONDUCTOR AND RELATED DEVICE MANUFACTURING

RELEVANCE: High    CONFIDENCE: 100%
CATEGORY: Compute Hardware
REASONING: GPUs are the core compute hardware in AI data centers,
specifically designed for parallel processing required in ML training
and inference.
```

Baseline analysis focuses on products classified as **High** — those directly used in data center construction or operation.

Result: 645 High-relevance codes out of 18364 total.

## What Are AI-Related Products?

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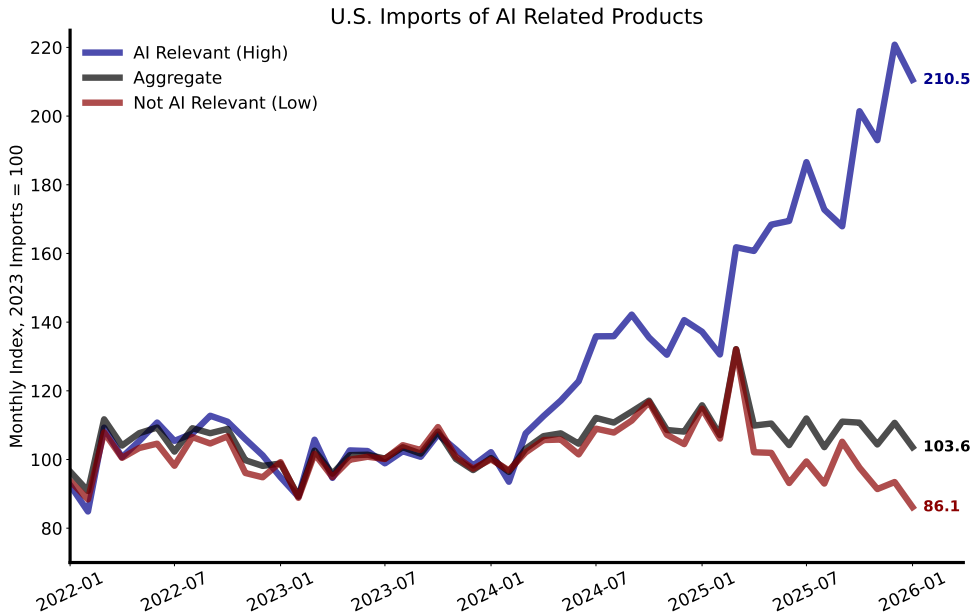
Category	# HS10 Codes	2023 (\$B)	2025 (\$B)	Change (%)
<b>High AI Relevance</b>	<b>645</b>	<b>379.0</b>	<b>654.0</b>	<b>+72.6</b>
Compute Hardware	163	144.4	353.8	+144.9
Electrical Power	250	116.9	141.8	+21.3
Networking Telecom	24	62.9	99.5	+58.2
Cooling HVAC	137	41.5	47.5	+14.4
Building Structure	44	12.1	10.1	-16.5
Fire Safety Security	8	0.6	0.7	+10.5
Specialty Materials	19	0.4	0.5	+22.5
Low AI Relevance	15,915	1,834.7	1,880.9	+2.5
<b>Total Trade</b>	<b>18,364</b>	<b>2,598.3</b>	<b>2,883.9</b>	<b>+11.0</b>

## What Are AI-Related Products? — Top 10 by Import Volume

HS10 Code	Description	Category	2025 (\$B)	Share (%)	Δ (%)
8471500150	Data processing units	Compute HW	163.6	5.67	+343
8517620090	Telecom transmission equip.	Network	52.9	1.83	+58
8473301180	Printed circuit assemblies	Compute HW	48.9	1.70	+200
8517620020	Switching & routing apparatus	Network	30.8	1.07	+89
8473301140	Memory modules	Compute HW	25.8	0.89	+206
8523510000	SSDs	Compute HW	17.5	0.61	+85
7403110000	Refined copper cathodes	Electrical	16.6	0.58	+150
8507600020	Lithium-ion batteries	Electrical	16.5	0.57	+11
8537109170	Electrical switchgear	Electrical	11.3	0.39	+13
8471804000	Units for ADP machines	Compute HW	11.1	0.39	+937

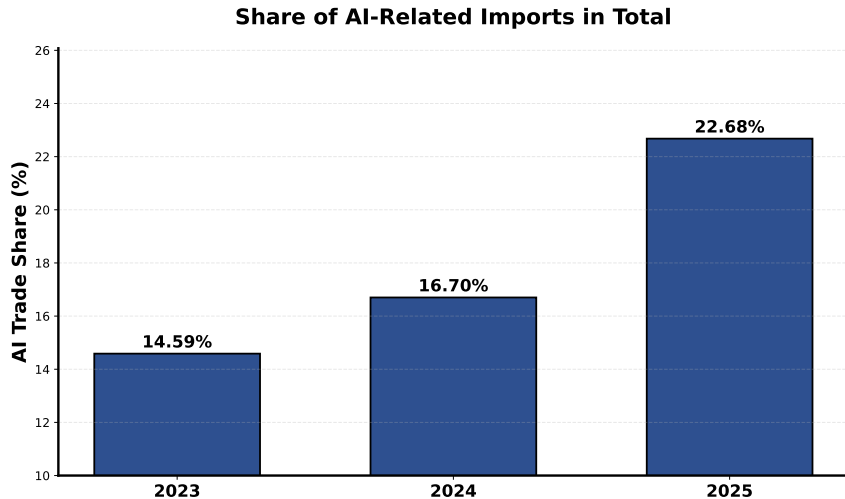
All ten products show double-digit growth; five show **triple-digit** growth since 2023.

# How Much Trade in AI-Related Products? A lot.



## How Much Trade in AI-Related Products? — Share of Imports

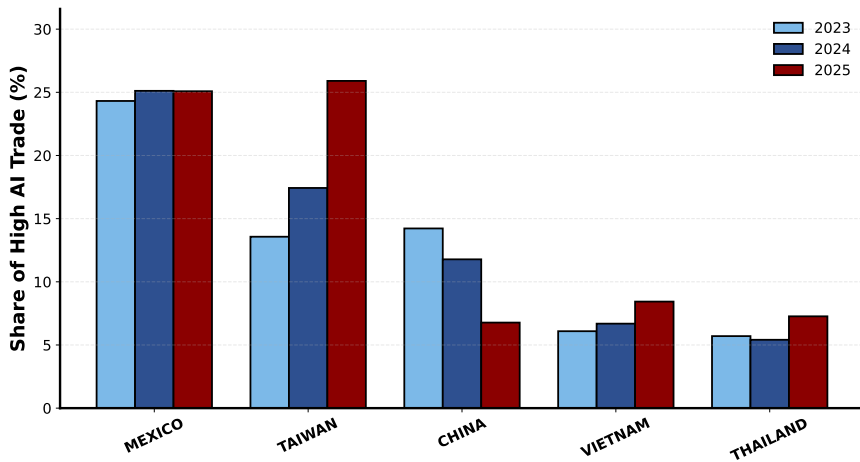
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## Where Are These Products Coming From? Mexico and Taiwan

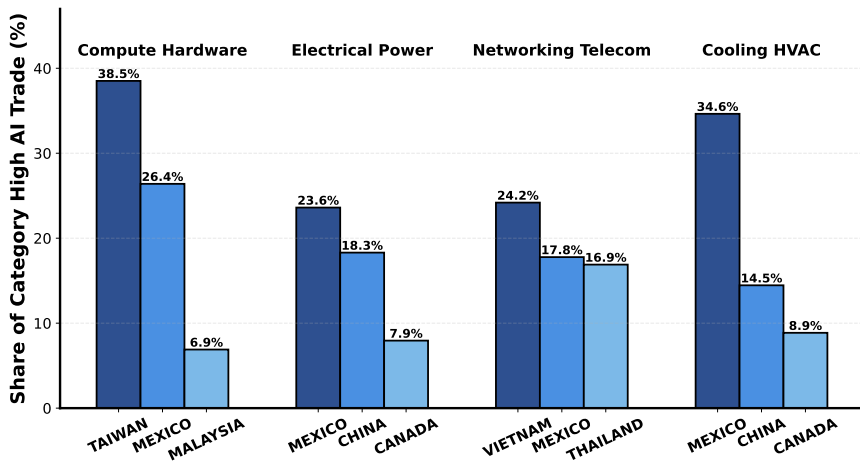
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**Top 5 Countries in High AI Trade Products**



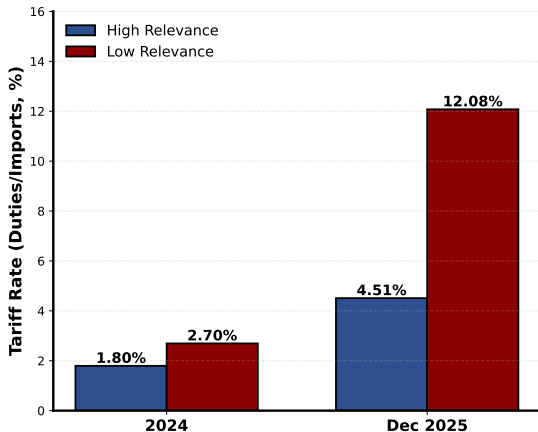
## Where Are These Products Coming From? — By Category

**Top 3 Country Shares by AI Category, 2024-2025**

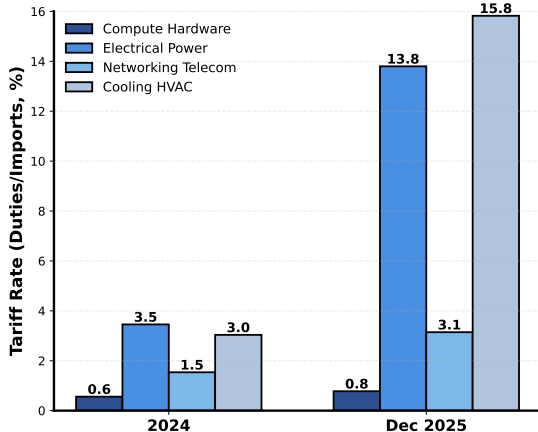


## How Has Trade Policy Treated AI-Related Products? Lightly.

### Tariff Rates by AI Relevance



### Tariff Rates by AI Category



## How Has Trade Policy Treated AI-Related Products? — Exemptions

Exemption List	# HS10 Codes	AI High Trade (\$B)	Share (%)
Consumer Electronics (EO 14257)	109	424.5	64.9
Annex II (EO 14257)	720	19.4	3.0
Section 122 Surcharge (Feb 2026)	1,098	445.9	68.2
<b>Any Exemption List</b>	—	<b>448.6</b>	<b>68.6</b>

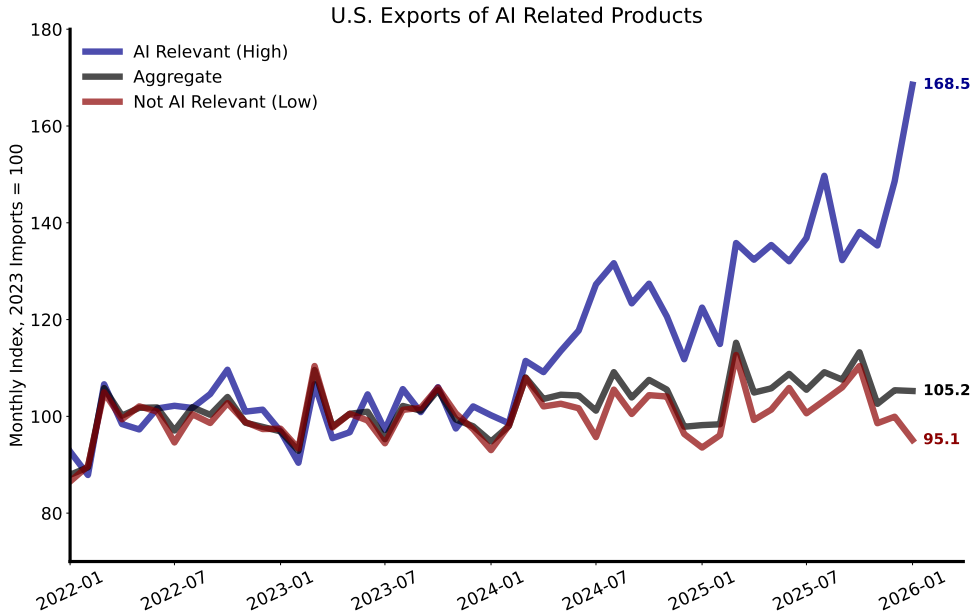
Nearly **69%** of AI-related imports by value fall on at least one exemption list. Compute Hardware is almost entirely shielded — 97% of its \$354B in imports is exempt.

## U.S. Exports of AI-Related Products

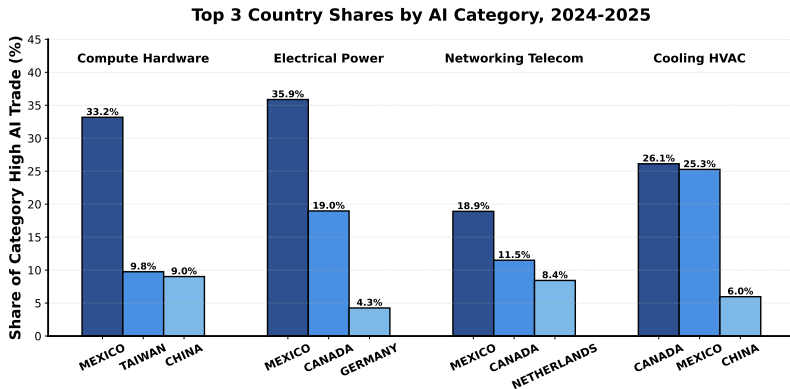
The export side tells a complementary story — U.S. exporters play an important role in the global AI value chain.

Category	# HS10 Codes	2023 (\$B)	2025 (\$B)	Change (%)
<b>High AI Relevance</b>	<b>534</b>	<b>221.5</b>	<b>297.9</b>	<b>+34.5</b>
Compute Hardware	112	99.1	160.6	+62.1
Electrical Power	219	64.5	70.1	+8.8
Networking Telecom	23	29.1	37.7	+29.7
Cooling HVAC	128	24.1	25.0	+3.5
Low AI Relevance	8,278	1,034.8	1,058.6	+2.3
<b>Total Trade</b>	<b>9,269</b>	<b>1,551.9</b>	<b>1,648.4</b>	<b>+6.2</b>

# U.S. Exports of AI-Related Products



## U.S. Exports of AI-Related Products — Destinations



Mexico is an important *destination* for AI-related exports — suggestive that AI materials come into the U.S., go to Mexico, and back.

## Does This Matter for the Aggregate? Yes.

A simple accounting exercise:

What would the U.S. goods trade deficit have been if AI-related products had grown the same as non-AI products?

Year	Imports	Exports	Excess AI Imp.	Excess AI Exp.	Net Effect
2023	2,598	1,552	—	—	—
2024	2,792	1,601	66	33	+32
2025	2,884	1,648	265	71	<b>+194</b>

## Summing Up...

- AI-related products account for **23%** of U.S. imports in 2025.
- Mexico and Taiwan each account for  $\sim 25\%$  of AI trade — Mexico's role is the surprise.
- Effective tariffs on AI products are lower than on other goods — exemption lists cover 69% of AI imports by value.
- The U.S. goods trade deficit would have been \$194B smaller absent the AI boom.

Paper, data, and code: <https://github.com/mwaugh0328/ai-trade-index>