



DMRG AI

Agentic AI for Supply Chain Resilience



Turning global supply-chain uncertainty into resilience, foresight, and competitive advantage.

Who We Are



DMRG (Data Mining and Risk Guidance) Technologies is an AI-driven startup pioneering supply chain intelligence for semiconductors, electronics, manufacturing, aerospace, and defense.

Our flagship **DMRG Terminal** embeds real-time supplier traceability, material risk detection, and resilience scoring directly into the design process.

We leverage **agentic AI, large language models, and global trade data** to map dependencies from components to raw materials—flagging risks like rare earth exposure, supplier concentration, or export controls **before they disrupt production**.



Dr. Ilya Jackson

Co-founder & Supply Chain AI Expert

MIT researcher with computational engineering and advanced analytics background. Led cutting-edge work on digital twins, predictive analytics, and supply-chain resilience.



Nan Wang

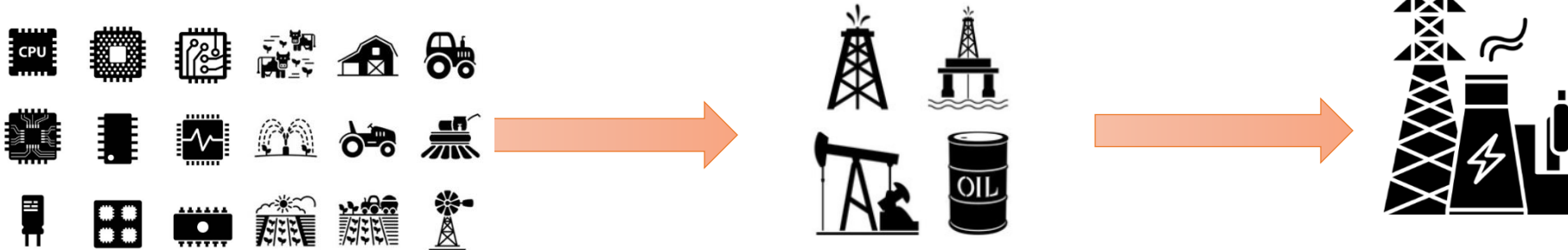
Co-founder & Electronics Sourcing Expert

10+ years of experience in electronics sourcing and procurement from Rivian and Shell. Master's degree in Supply Chain Management from MIT, along with dual degrees in engineering and business from the National University of Singapore.

The Supply Chain Challenge

What happens if an Upstream Supplier is Disrupted?

- Recall the example of Evonik Industries in 2011, which brought down the entire auto industry.
- The global automotive industry was hit hard by a semiconductor shortage during the COVID-19 pandemic.



- **Upstream Industries (Source):** To what extent is a specific industry dependent on other industries in different countries?

Oil and Gas Industry

BBC NEWS Fire in small German town could curb world car production

THE WALL STREET JOURNAL.
Global Chip Crisis Hits Auto Makers Hard

- **Downstream Industries (Supply):** To what extent are other industries in different countries dependent on a specific industry?



Our Solutions

Our Solution

Agentic AI, Data Scraping and Network Science for Supply Chain Analytics

Data Sourcing



10-K audit reports
Earnings call



FINANCIAL
TIMES

Bloomberg



REUTERS



UN Comtrade Database



OECD

AI-enabled Data Fusion

Google APIs



ScrapFly

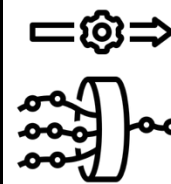


PostgreSQL

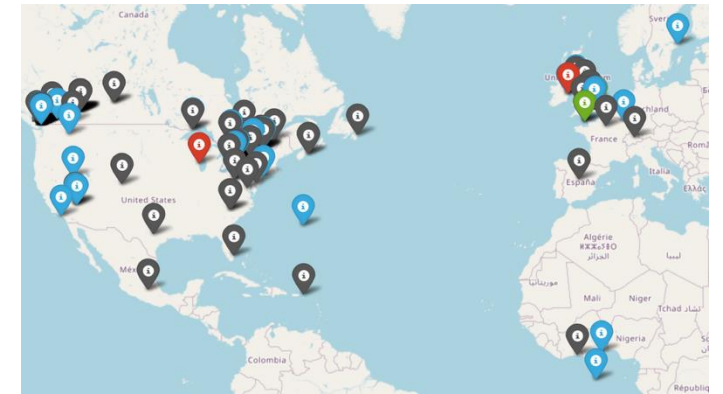


NetworkX
Network Analysis in Python

Modeling Capabilities



Supply Chain Illumination
Connectivity Analysis
Cascading and
Compounding Threats



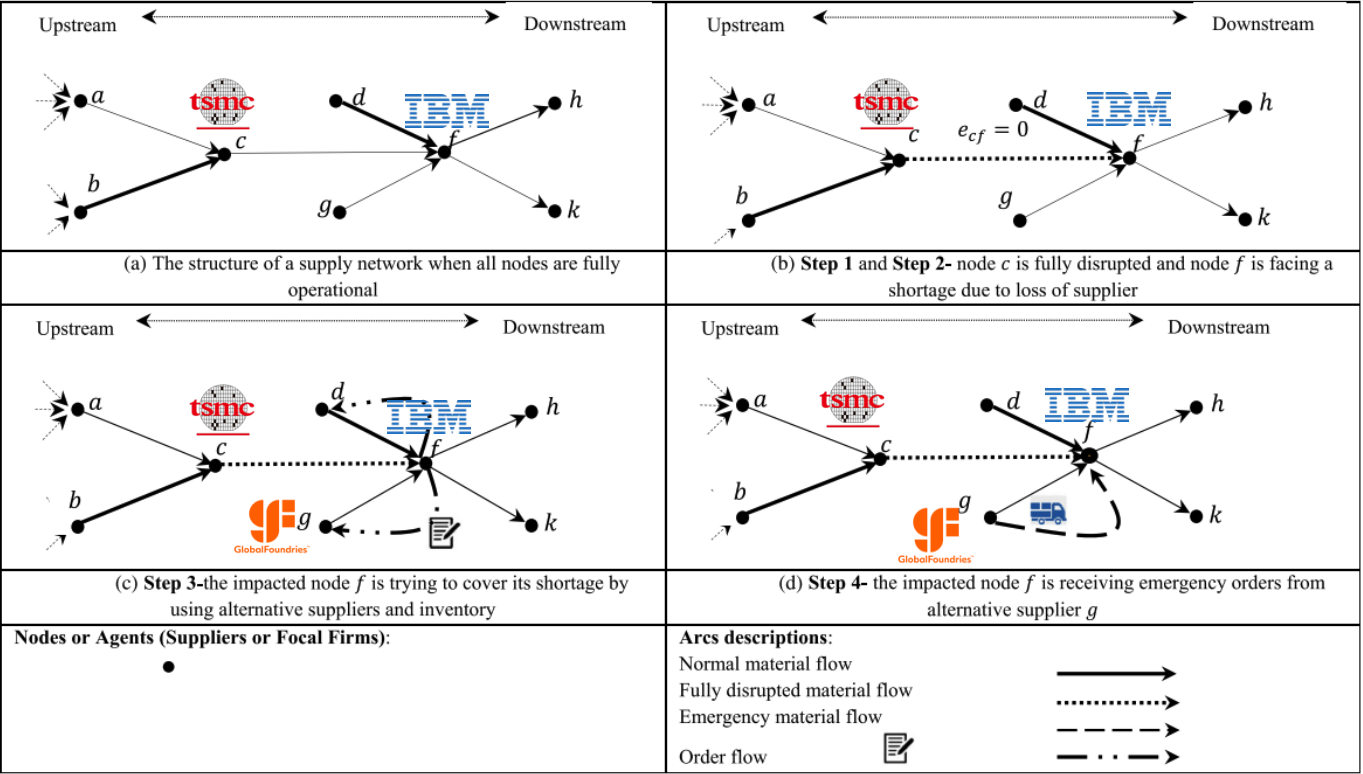
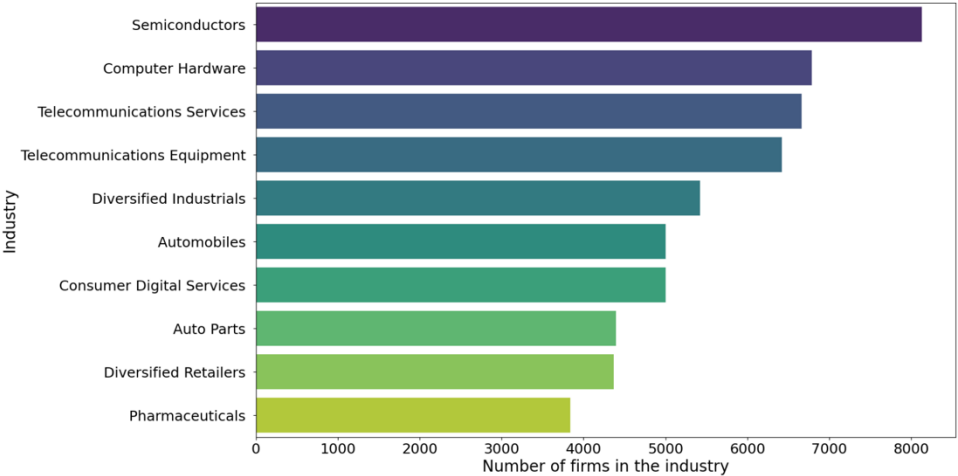


Our Solution

Agent-based Global Supply Chain Model



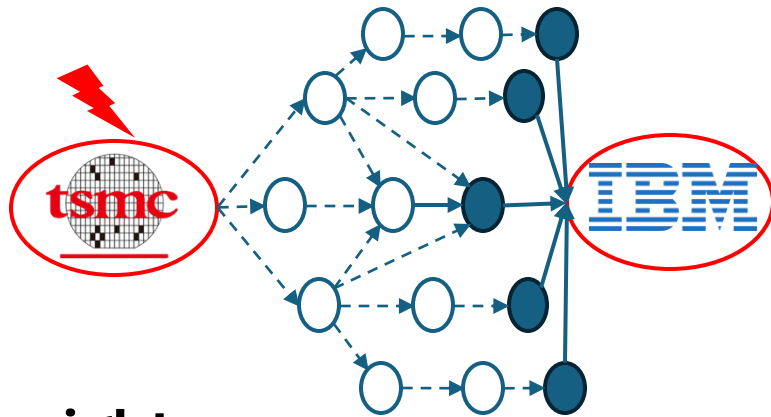
Unique firms: 80K
Relations: 250K
Countries: 93
Industries: 278



Our Solution

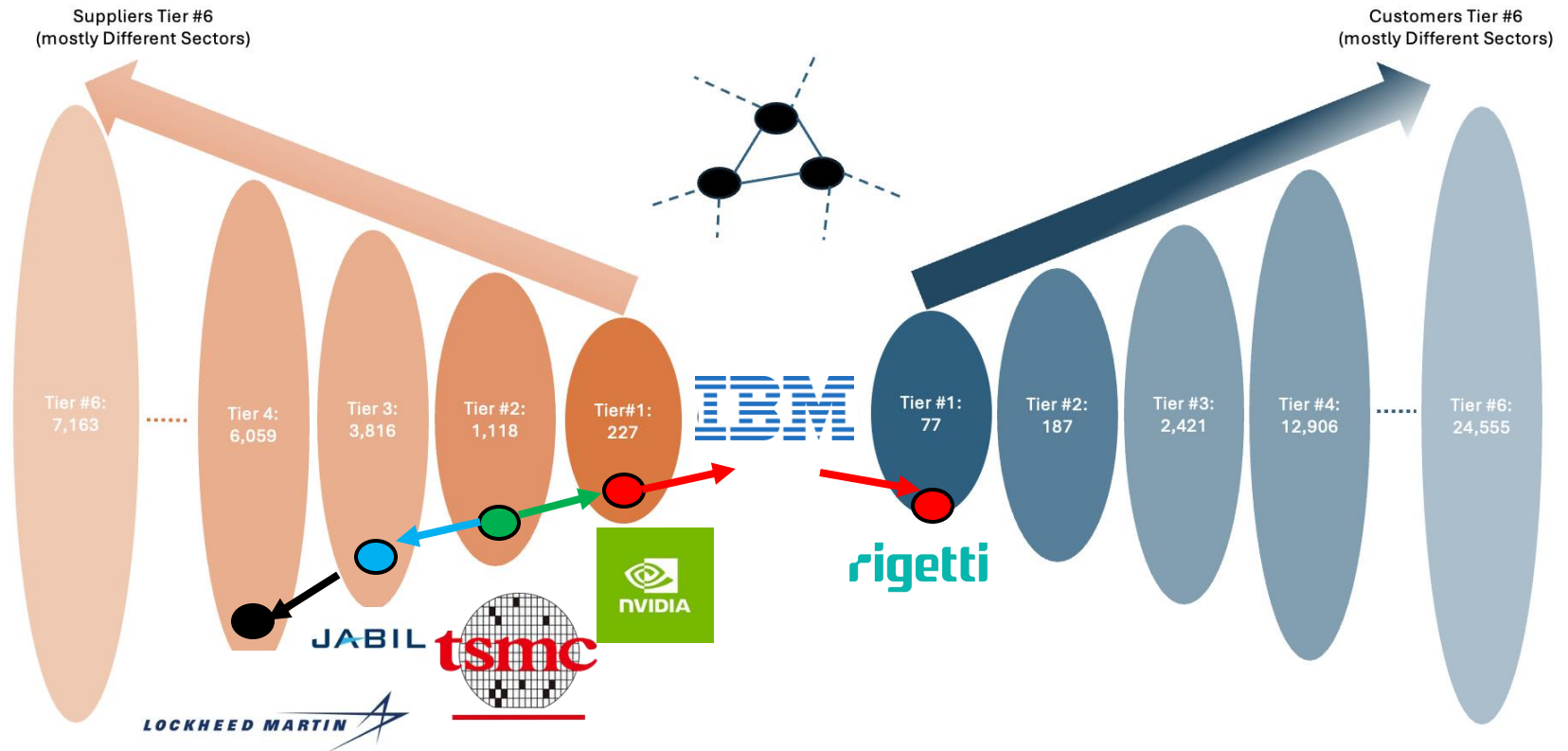
Deep-Tier Supply Chain Visibility

The Economist Business | Semiconductors
TSMC walks a geopolitical tightrope



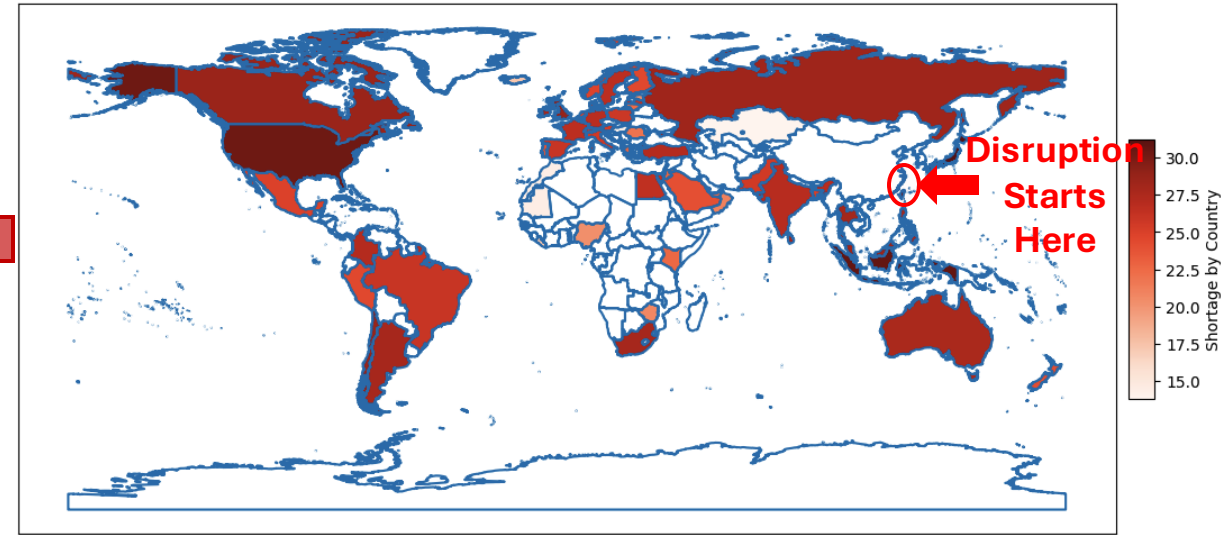
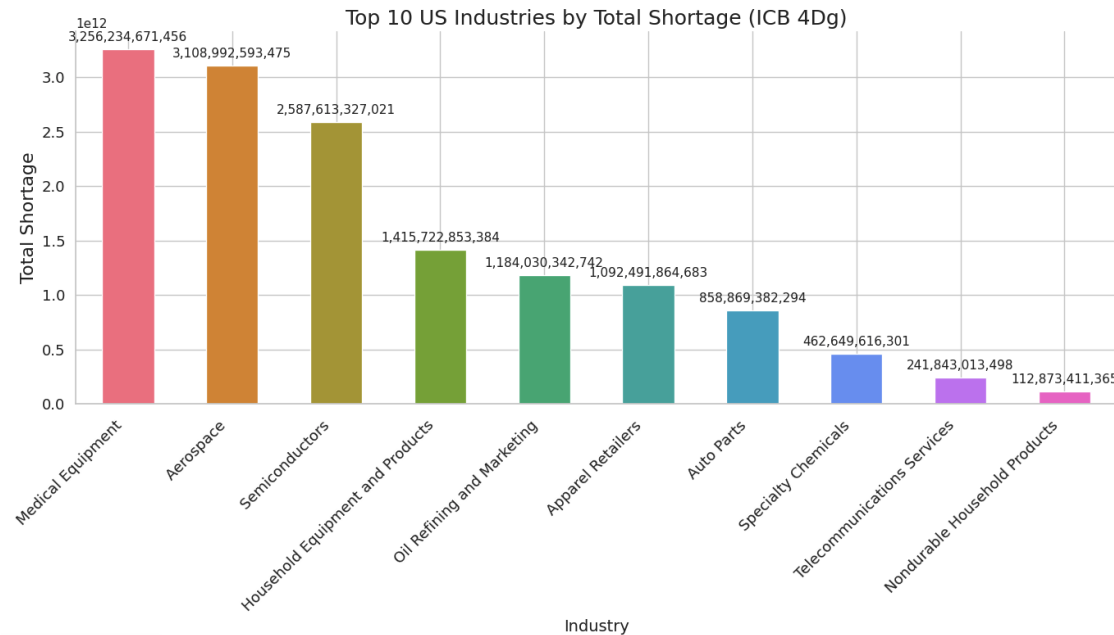
Insights

- Amid global tensions and the risk of conflict around Taiwan, disruptions in the semiconductor supply chain involving **TSMC** could have far-reaching impacts across industries.



Our Solution

Implications of the Cascading Disruptions and “Chain Reactions”



TSMC as a Single Point of Failure: Over **90% of the world’s most advanced chips** are produced by TSMC in Taiwan — a massive geopolitical and operational bottleneck



Our Products



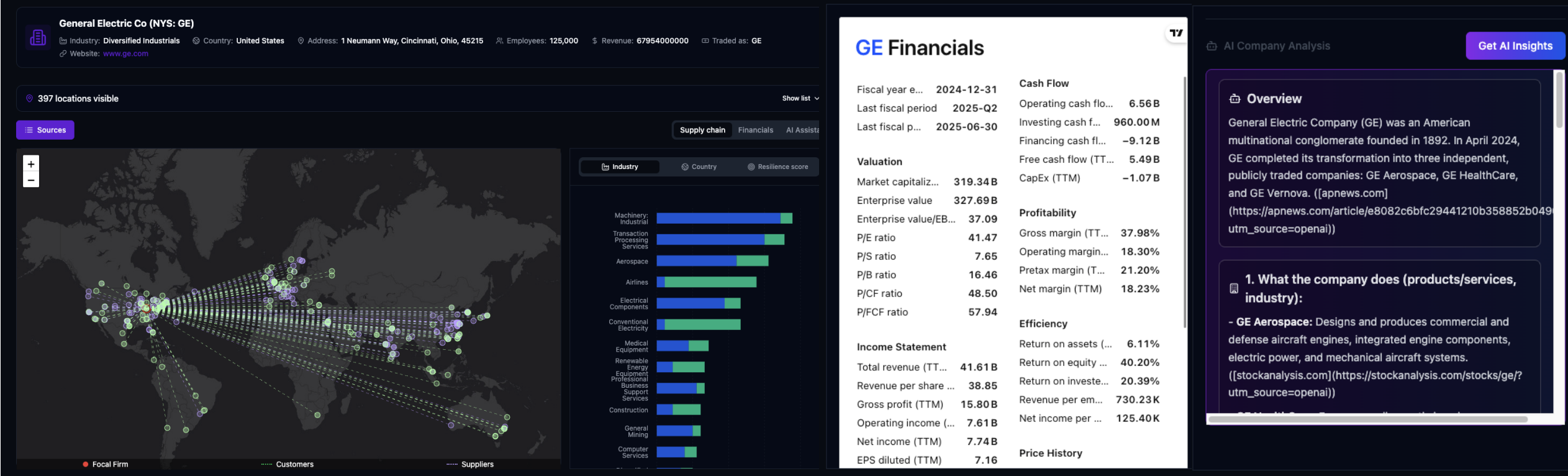
Our Products

DMRG Terminal: Project Illuminatus

Design-stage supply-chain illumination & stress-testing
(TRL-3→4; AFWERX/NASA Ignite focus)



AFWERX





Our Products

Critical Minerals Trade Analytics

Harmonized System (HS)-code + firm-level graphs to reveal chokepoints & policy risks (DOE RFI lineage)



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Uranium
Symbol: U

Uranium is a dense, naturally occurring element (atomic number 92) that—while not officially designated a critical mineral in U.S. law due to its classification as a fuel—is increasingly treated as one in strategic contexts. Its nuclear fuel and defense applications expose high supply-chain risk and geopolitical vulnerability, driving policy interest in securing domestic production and enrichment. Recent global energy transitions and security concerns have elevated uranium’s critical status in practice.

Applications

- Nuclear power
- Naval reactors
- Military munitions
- Radiation shielding
- Medical isotopes
- Scientific research

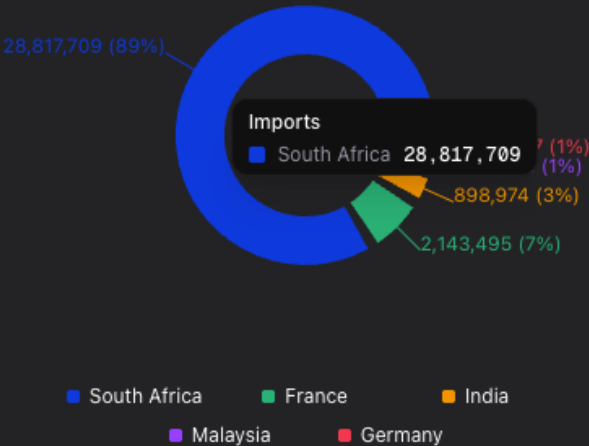
HS Codes

284430	Click for analysis
Uranium (depleted U235), thorium compounds, products	
284442	Click for analysis
Special radioactive elements: including actinium, californium, curium, einsteinium, gadolinium, polonium, radium, uranium	
284410	Click for analysis
Natural uranium, its compounds, mixtures	
284420	Click for analysis
Uranium (enriched U235), plutonium compounds, alloys	

Critical Minerals and Trade Balance (MEDIUM TERM 2025-2035)



USA
Top 5 Import Sources





Our Products

Quantum Supply-Chain Mapping

End-to-end visibility of quantum hardware stacks, cryogenics, optics, and rare materials.



<quantum|gov>

Quantum Supply Chain

CategoriesCompanies

Categories Navigation:

Acousto Optics

Atomic Clocks

Cmos Cameras

Control Electronics

Legend:

Tier 1 - Core Processing

Tier 2 - Systems & Enabling

Tier 3 - Components

Tier 4 - Raw Materials

Total Companies: 168

Navigation: Click any category above to navigate to it

Vacuum/Vapor Cell
13 companies

Accuglass
United States
Trapped Ion...
HS: 901380
Tier 2

Kimball Physics
United States
Trapped Ion...
HS: 901380
Tier 2

Precision Glass Blow
United States
Trapped Ion...
HS: 901380
Tier 2

Vapor Cell Technologies
United States
Trapped Ion...
HS: 901380
Tier 2

Epotek
United States
Trapped Ion...
HS: 901380
Tier 2

Kurt J. Lesker
United States
Trapped Ion...
HS: 901380
Tier 2

Sigma Aldrich
United States
Trapped Ion...
HS: 901380
Tier 2

Extorr
United States
Trapped Ion...
HS: 901380
Tier 2

Mks Vacuum
United States
Trapped Ion...
HS: 901380
Tier 2

Triad (Cells)
United States
Trapped Ion...
HS: 901380
Tier 2

Fieldline
United States
Trapped Ion...
HS: 901380
Tier 2

Pfeiffer
Germany
Trapped Ion...
HS: 901380
Tier 2

Twinleaf
United States
Trapped Ion...
HS: 901380
Tier 2

Vacuum/Vapor Cell
13 companies

HS TRADE CODES

901380
Click for analysis

Vapor Cell Technologies

LOCATION: United States

CATEGORY: Vacuum/Vapor Cell

SUPPLY TIER: Tier 2

Quantum Technology Focus

HS Trade Code

Trapped Ion, Neutral Atom

901380 Click for trade analysis

Tier Classification

Systems & Enabling Technologies

AI Company Analysis

Get AI Insights

United States

Trade Deficit

Total Imports: \$2,826,502,223

Total Exports: \$1,657,293,125

Trade Balance: -\$1,169,209,098

The Road Ahead



- Advance platform from **TRL-3** → **TRL-6** with agency pilots (DOD/DOW, NASA, DOE)
- Expand from **aerospace & defense** → **semiconductors, energy, manufacturing**
- Build the “**Bloomberg Terminal for supply chains**” with SaaS rollout in 2026–2027
- Seeking **pilot partners, program champions, and co-development collaborators**



Contact us:

Dr. Ilya Jackson: ijackson@dmrg.ai

Nan Wang: nwang@dmrg.ai