

Sinolytics Supply Chain Services

Gain transparency on critical China supply chain dependencies in your value chain.

Understand and mitigate potential (geo-)political delivery failures to ensure resilient operations.

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Sinolytics: A European research-based consultancy focused on China

Profile	Key services	Approach
<ul style="list-style-type: none"> • Offices in Berlin and Beijing • Nexus between policy and business • Blending in-depth research with management consulting approach • Bridgebuilders: Diverse team with European & Chinese perspectives • Advising companies across sectors with focus on automotive, machinery, energy, chemicals, semiconductors • 90+ clients, including many of the largest and most respected foreign companies operating in China • Founded in 2017 	<ul style="list-style-type: none"> ➤ Strategy Building <ul style="list-style-type: none"> ➤ Policy-driven strategy development, strategic positioning, and strategy implementation ➤ Geopolitical Advisory <ul style="list-style-type: none"> ➤ Geopolitics monitoring & forecasting, scenario building, impact assessment and mitigation ➤ Supply Chain <ul style="list-style-type: none"> ➤ Definition of critical supplies, mapping tier-X supply chains, delivery failure assessment ➤ Policy Monitoring <ul style="list-style-type: none"> ➤ Continuous, tailored policy and regulatory monitoring, trend detection and forecasting ➤ Regulatory Compliance <ul style="list-style-type: none"> ➤ Data-/Cybersecurity Regulation, Social Credit System, Environmental compliance ➤ Market Analysis <ul style="list-style-type: none"> ➤ Market intelligence for Automotive, Chemicals Semiconductors, Manufacturing, Machinery 	<ul style="list-style-type: none"> ➤ Primary source and Chinese-language research ➤ Problem-solving and developing tailored solutions ➤ Dedication to deep research, cutting through complexity ➤ Depth in content, while strong in contextualization ➤ Extensive expert network and research partners



The challenge: Geopolitics increase risks from high sourcing dependencies on China

Expanding trade controls

Higher likelihood of conflict

Stricter supply chain scrutiny

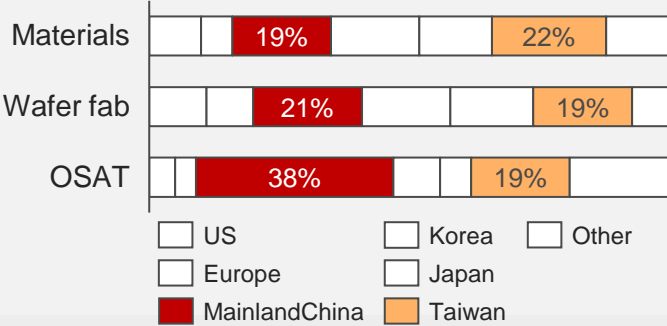
Risk driver

China expands its trade control toolkit to more effectively retaliate against US/European measures



- Gallium and germanium exports restricted starting Aug 1st 2023
- New foreign relations law strengthens legal basis for countersanctions
- Drafts propose to restrict solar technology export needed for EU renewable energy transition

Severe global production disruption in case of conflict (e.g. due to high reliance on chip materials and cutting-edge foundries from Taiwan)



Supply chain acts in US/EU require higher scrutiny also on tier-X levels



“Companies [...] have to identify risks in their entire chain of activity [...]. Companies must look at their upstream supply chains (e.g. raw material mining) and at their downstream supply chains (use, processing, disposal) in an appropriate manner.”

EU Supply Chain Law Initiative

Relevant products

Raw materials
gallium, magnesium, lithium, rare earths, cobalt

Semiconductors
esp. cutting-edge wafers, packaging and assembly

Polysilicon, PVC

Focus industries

Chemicals, Electronics, Solar, Steel, Auto

Electronics, Automotive, Machinery

Textiles, Photovoltaics, Chemicals

Observed action

ASML Hit With New Dutch Limits on Chip Gear Exports to China

China Mulls Protecting Solar Tech Dominance With Export Ban

BT Group Plc + Add to myFT

BT holds China-Taiwan war game to stress test supply chains

TSMC: the Taiwanese chipmaker caught up in the tech cold war

China

China asks EU to justify upcoming carbon tax at World Trade Organization

LIEFERKETTENSETZ

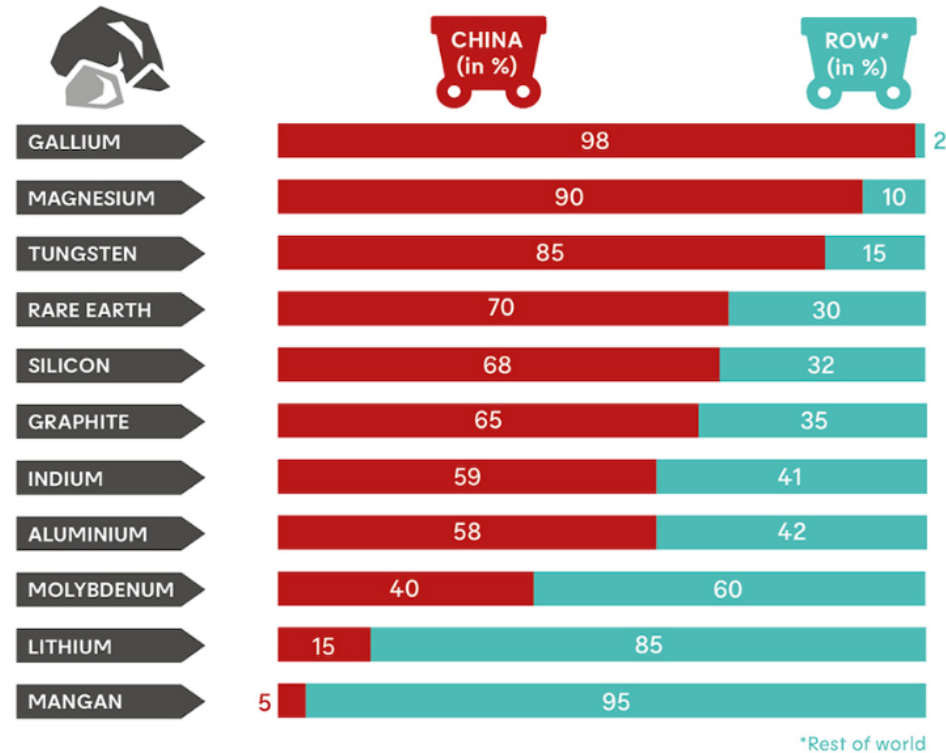
Warum Mittelständler bei der Kontrolle der Zulieferer an Grenzen stoßen

Implication for companies: Identify critical dependencies and manage supply failure risks

Critical dependencies: China's raw material dominance increasingly becoming a strategic risk



GLOBAL RAW MATERIAL PRODUCTION



Source: U.S. Geological Survey Mineral Commodity Summaries 2023

KEY CHALLENGES FOR CORPORATES

- Does the company have **critical sourcing dependency** on China? If disrupted severely, would it impact business continuation?
- Does the company have **transparency** on dependencies at **tier-x** level, e.g. for raw materials or semiconductor value chain?
- How likely are **trade restrictions** affecting products/materials critical in the supply chain and dominantly sourced from China?
- What is the **likelihood and company-specific impact of an escalatory conflict**? Should the company prepare already today?
- How can **sanctions** and escalatory conflict **disrupt the company's supply chain at global level**? Are critical components affected?
- What are cost-efficient and **feasible measures** to increase resilience of the company's supply chains?

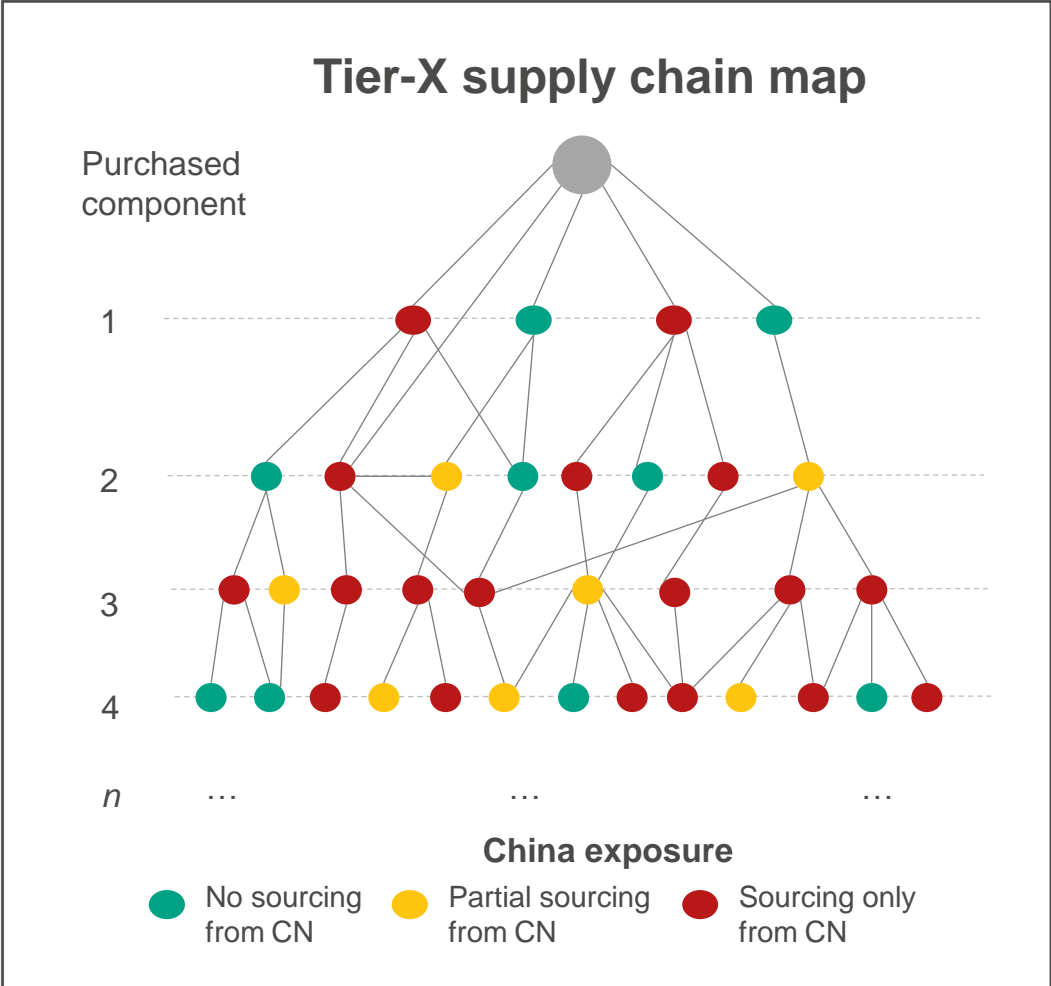
Our value add: Supporting clients in building resilient supply chains

WHAT SINOLYTICS OFFERS

- Higher awareness for **geopolitical supply chain risks**
- Improved **transparency at tier-X level**
- Strategy for supply chain **resilience building**
- Learning from **best practices**
- **Concrete measures** to improve supply chain resilience

Examples of industries we cover: semiconductors, batteries, electric motors and magnets, forgings, plastics, photovoltaics, winds, and much more

Examples of raw materials we cover: lithium, cobalt, nickel, rare earth elements, gallium, germanium, magnesium, molybdenum, manganese, tungsten, indium, and much more



Our approach: Risk Exposure Assessment along four steps



Step 1

Defining Critical Components and Materials



Step 2

Identifying China Tier X dependency

Sinolytics Supply Chain Database



Step 3

Assessing political scenarios and risks to supply chains



Step 4

Benchmarking, de-risking and resilience measures


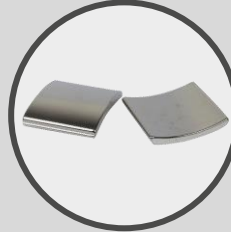






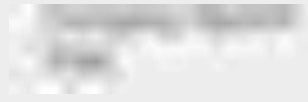


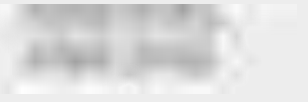

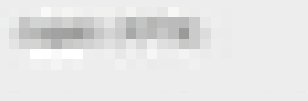




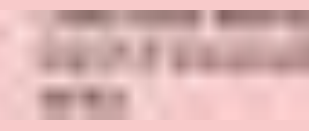



Step 5

Supply Chain Monitoring

STEP 1 Identifying Critical Components: The case of EC motors

Several critical components have a high dependency on Chinese suppliers down to the raw material level

	Tier 1	Tier 2	Tier 3	Tier 4
				
	EC Motor/Rotor	NdFeB permanent magnet	Neodymium and Dysprosium Separation	Rare Earth Mining
China Dependency (% of global market)				
Chinese Suppliers (% of global market)				
Non-Chinese Supply (% of global market)				
Geopolitically motivated supply disruption risks				

STEP 2 China dependency: Tier-X China dependency of critical components

Creating supply chain transparency beyond Tier-1 significantly improves strategic choices for resilience building

For illustration only

Commodity	T1	T2	T3	T4	T5	T6
Battery	Packaging	Cell	XXX	Lithium Refining	Lithium Mining	
				XXX	XXX	
			Anode and Precursor	Graphite Refining	Graphite Mining	
				Synthetic Graphite	Needle Coke	
Gear Boxes	XXX	XXX	XXX			
Pharmaceuticals	XXX	XXX	XXX	XXX	XXX	
Semiconductors	XXX	XXX	XXX	XXX	XXX	Gallium
Electric Motors	XXX	XXX	XXX	XXX		
Photovoltaics	XXX	XXX	XXX	XXX		
...	XXX	XXX	XXX	XXX		

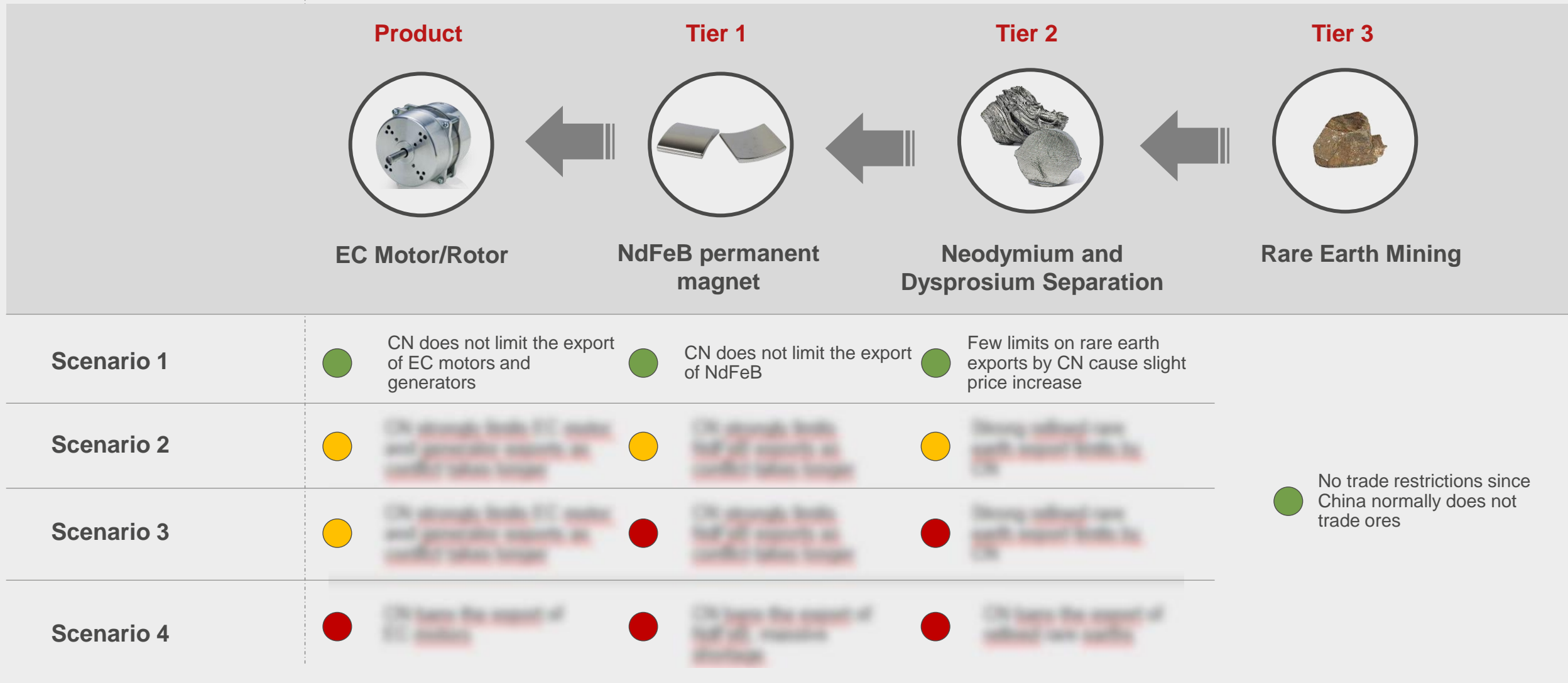
Degree of dependence:

Very High China dependence High China Dependence Low/Medium China dependence

Chinese share in supply

STEP 3 Risk Assessment: Scenario based impact forecasting

In-depth understanding of how policy actions are connected to geopolitical trajectory increases crucial forecasting ability



STEP 4 Measures: Benchmarking with other companies and using best practices

Better understanding of dependencies plus benchmarking and best practice analysis lead to effective resilience measures

Basic Principles

Prioritize Geopolitics
in Supply Decision

De-Risking is not Decoupling

Tier-X transparency



Example Measures

Create Tier-X transparency

Digital Twins of Tier-X

Supply Chain Risk Monitoring

Industrial Platforms

Second Source

Neutral Country Sourcing

China Purchasing Screening

Stockpiling

Vertical Integration

Demand Tier-X Diversification

Product Re-Design

...

Sinolytics USP: Research-based consulting at policy-business nexus

What makes us unique

- Proprietary Sinolytics Supply Chain database
- Combining geopolitical and industry know-how
- Deep China expertise of supply chains
- Cross-industry and cross-business perspective
- European and Chinese perspective on geopolitics

Our method

- Examining company statements/annual reports
- Deeply delving into public and industry reports
- Looking at dependencies of countries & industries
- Using industry and supply chain databases
- Talking to industry insiders in background rounds