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Disruption in the Global Semiconductor Supply Chain

GSA Tech Summit – July 1, 2025

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Disruption Index

At a glance

40
years

6th
Annual AlixPartners Disruption Index

3,000+
CEOs and other senior executives from around the world

For over 40 years, AlixPartners has been helping clients confront disruption. Increasingly, cycles of disruption have displaced economic cycles as the primary business challenge.

Disruption is the new economic driver.

As a result, we study its root causes and identify what companies are doing to mitigate its effects and harness its opportunities.

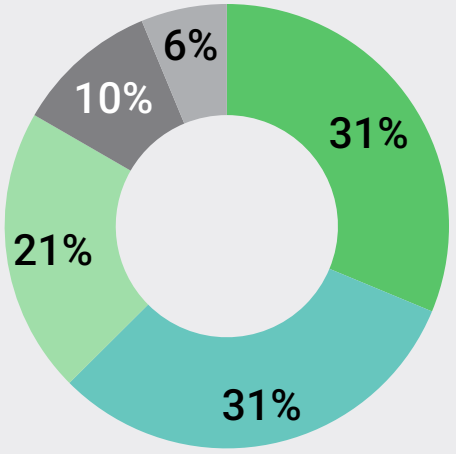
In this, our 6th annual AlixPartners Disruption Index, we provide insights on these topics from our experts and a survey of more than 3,000 CEOs and other senior executives from around the world.

The Participants

For the 6th year, we interviewed 3,000+ important global leaders

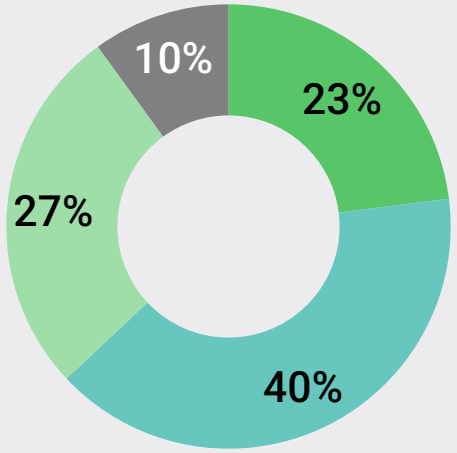
GLOBAL

Geographic distribution



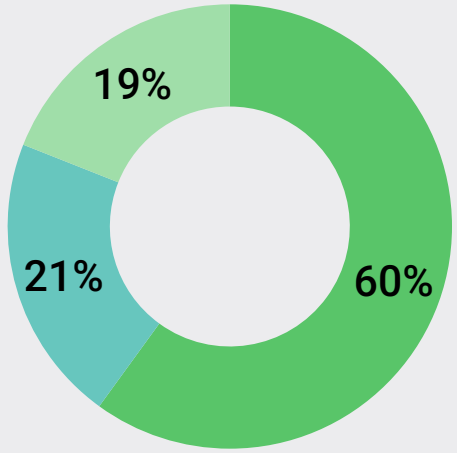
RELEVANT

Company size



INSIGHTFUL

Leadership Level of Respondent



The Personal Response

CEOs are growing in confidence amid increasing disruption

Changes in 2025 vs. our 2024 disruption index survey

MORE DISRUPTED…

- CEOs highly disrupted over past year (67% **+2 pts**)
- Expect significant changes to business models over next year (62% **+6 pts**)

BUT LESS WORRIED…

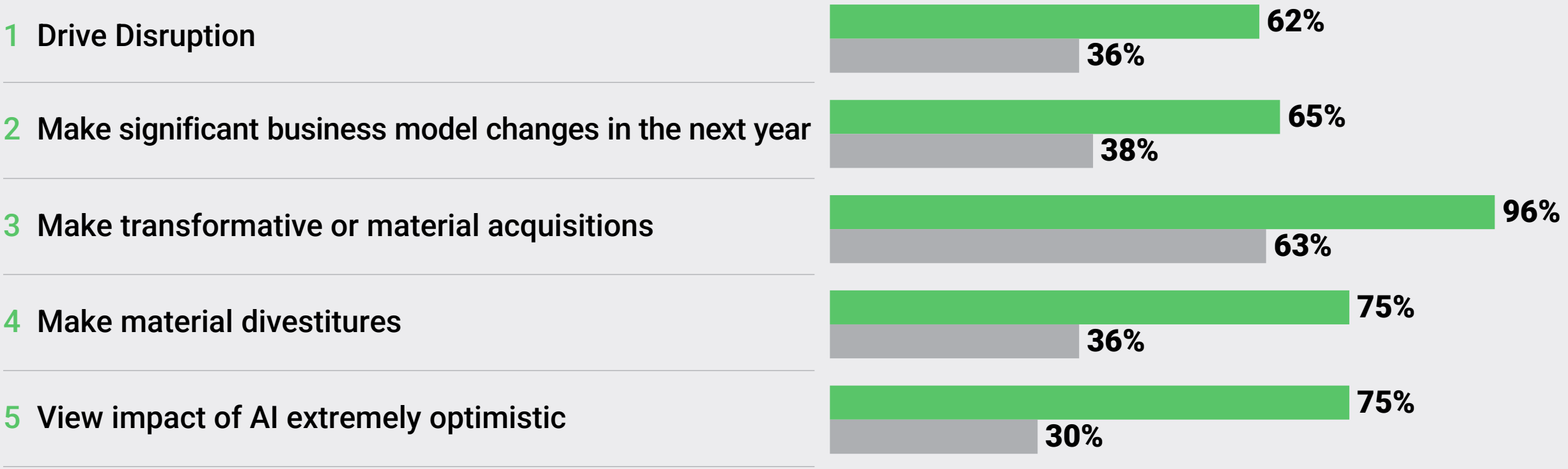
- Personally falling behind in knowledge and skillsets (43% **-15 pts**)
- Worry about losing their job (43% **-16 pts**)

BECAUSE ORGANIZATIONS ARE ADAPTING

- Executive team lacks necessary agility (45% **-18 pts**)
- Company is not adapting fast enough (41% **-20 pts**)
- Employees stuck in their ways (47% **-12 pts**)

The Organizational Response
Better companies act boldly

Growth and profitability leaders, companies that lead their industries in growth (16% of respondents) AND saw profits increase 10% or more (229 companies, 7% of all respondents), **act differently from normal companies in their industries**



Many Semiconductor firms have become growth and profitability leaders and even drivers of disruption, but not all…

In recent years, many semi firms have transformed from being **complacent market followers** to **disruption profiteers** (chip shortage) to **drivers of disruption.**

But **not all participate in this trend.**

Companies with >10% profit growth **2024**

40% (20%)

Companies seeing themselves as always driving disruptions

35% (14%)

Outlook for significant revenue growth

44% (26%)

Increasing investment in China

83% (63%)

Significant change in business model

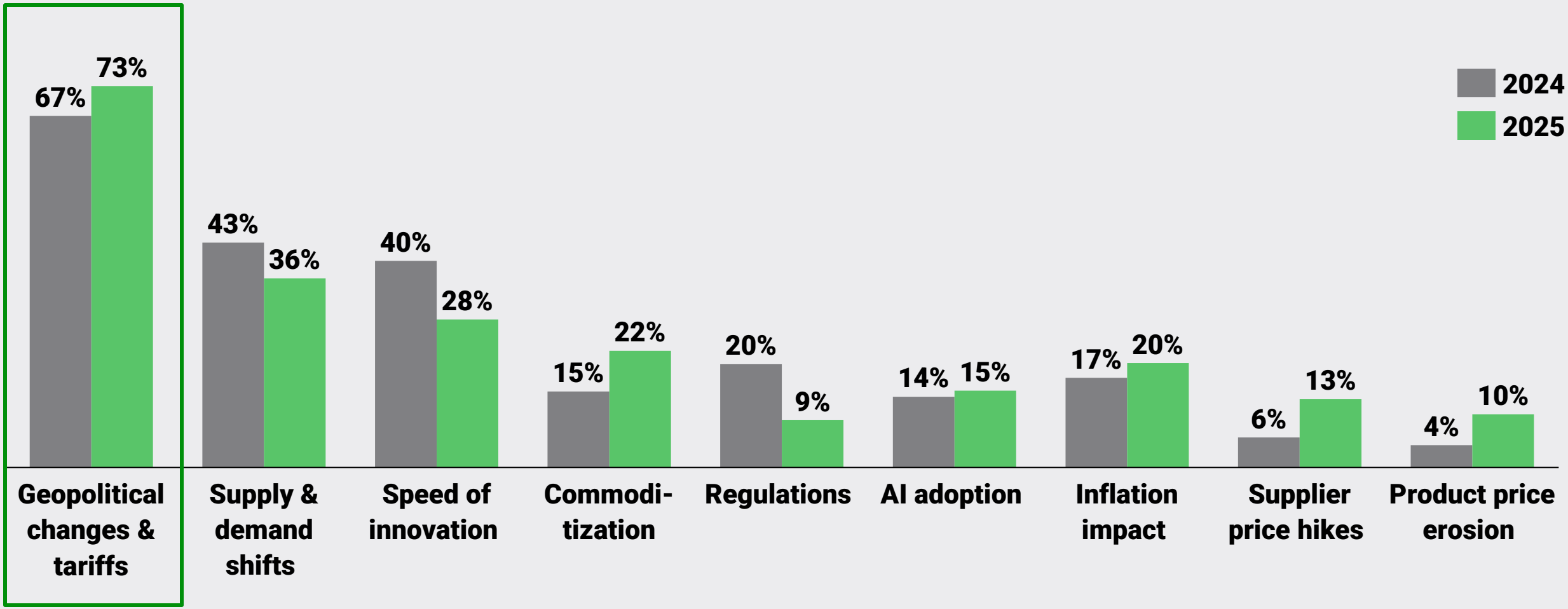
71% (40%)

GREEN FIGURES: Semiconductor companies, **GREY:** all other industries

Semiconductor firms see **workforce and talent management** as key concerns with leaders anticipating rapid changes

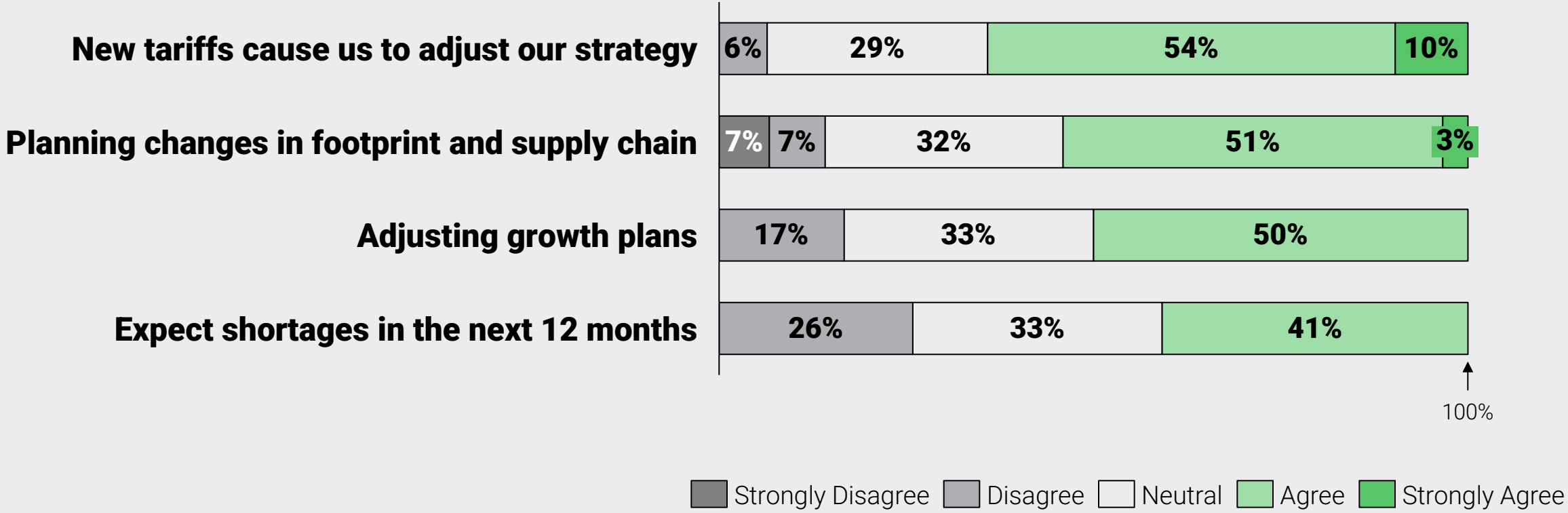
What do leaders see as the **biggest disruptors** to their business?

Semiconductor leaders' responses:



More than 50% of respondents say they are **adjusting strategy, footprint and growth plans** in response to changes in policies

Semiconductor leaders' responses:



Deep Dive Tariffs: Prospective policy changes threaten to drive up fab construction costs and are reshaping investment strategy

Fab Investment Disruptors

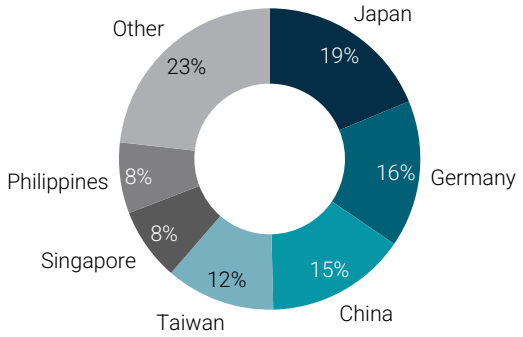
Inputs Tariffed
Steel, aluminum, cleanroom chemicals subject to import duties

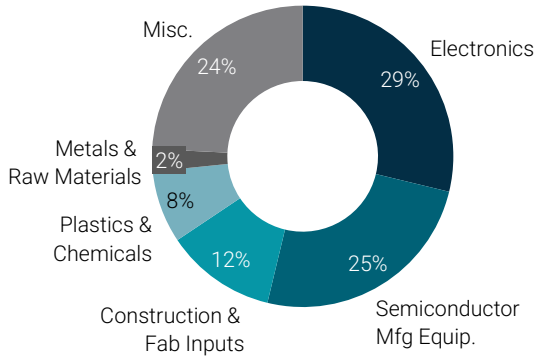
Equipment Restrictions
Export controls on EUV, lithography tools limiting fab timelines

Subsidy Gaps
CHIPS Act funds cover some CapEx but not tariff risk or delay penalties

Risk Mitigation
Companies reworking fab design, sourcing, and location strategy

Country of Origin, Product Mix, & Tariff Exposure (2024) by metric tons





Product Family	Top HTS Codes	Top Import Country	Tariffs[1] 2024	Tariffs[1] 2025 Reciprocal
Electronics	8470.10 – Electronic computers	Philippines (96%)	0%	17%
	8473.40 – Computer parts	China (57%)	25%	170%
	9472.90 – Peripheral devices	Germany (59%)	0%	20%
Semiconductor Mfg Equip	8486.20 – Wafer tools	Japan (60%)	0%	0%
	8486.40 – Photolithography tools	Japan (63%)	0%	0%
	8486.90 - Tool Components	Japan (78%)	0%	25%
Construction & Fab Inputs	7326.90 – Mounting hardware	Taiwan (61%)	0%	32%
	8414.10 – Vacuum Pumps	Japan (94%)	0%	24%
	8481.80 – Flow Valves	Taiwan (85%)	0%	32%
Plastics & Chemicals	2905.12 – Propylene Glcol	Taiwan (100%)	0%	32%
	3926.90 – Plastic Parts	Germany (51%)	0%	20%
	3923.90 – Plastic Sheets	China (62%)	25%	170%
Metals & Raw Materials	7409.90 – Copper Plates	India (100%)	0%	0%
	7404.00 – Copper Scrap	Mexico (100%)	0%	25%
	7205.29 – Alloy Steel	China (100%)	25%	170%

DEEP DIVE

While subsidies can support CapEx, tariff exposure and export controls still inflate costs and delay timelines, forcing firms to rethink both the location and design of new fabs

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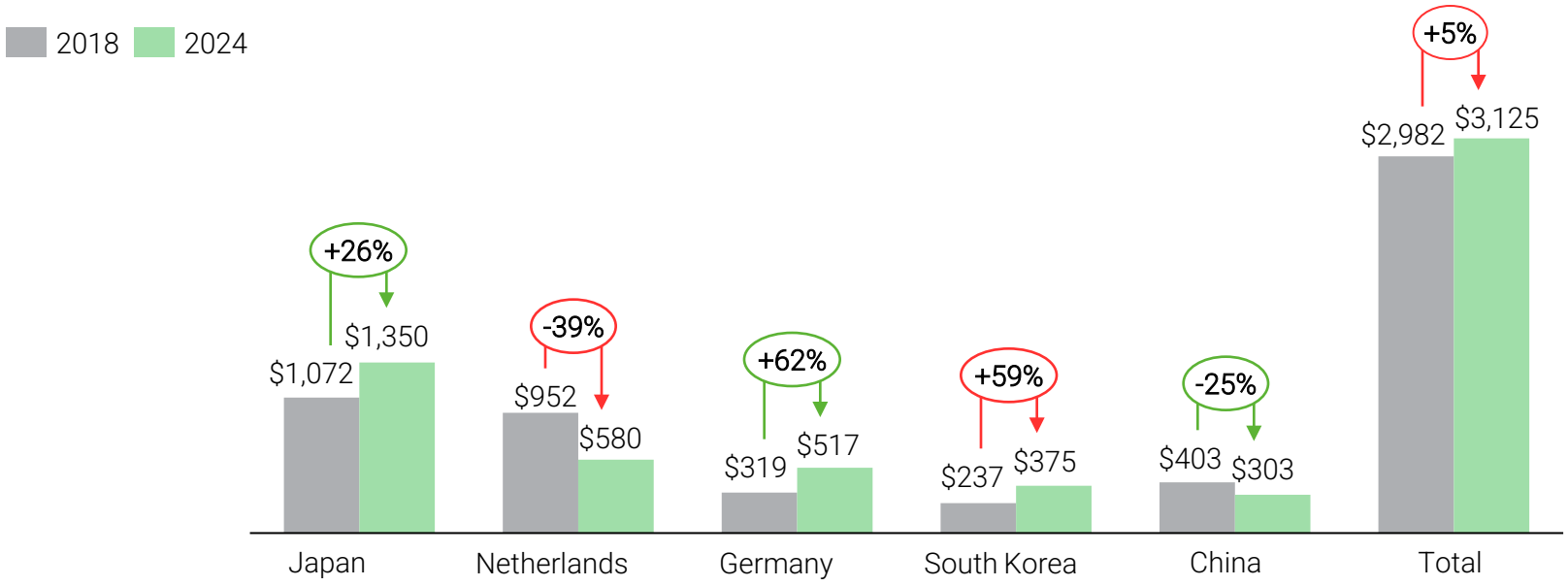
Source: file for 16 largest semiconductor companies

Example: Importing Semiconductor tool components exposes U.S. fabs to steep tariff hikes and supply risk

Category Import Trend for Semiconductor Tool Components ($M imports) & Tariff Exposure



	Japan	Netherlands	Germany	South Korea	China	Est. Total Tariff Delta ($M)
2024 Tariff Rate	0%	0%	0%	0%	25%	
2025 Reciprocal Tariff	25%	25%	25%	25%	170%	
Est. Tariff Delta ($M)	$337	$145	$129	$94	$439	$1,145

Key Insights

- Material for Semiconductor Mfg. Equipment is essential for front-end semiconductor manufacturing.
- Japan leads in absolute import volume—once attractive due to 0% tariffs, it now poses a $337M exposure risk if 2025 reciprocal rates take effect
- China's modest 175% tariff drives the largest impact, with a $439M delta
- Germany and South Korea show strong import growth (+62% and +59%) and stable, tariff-free alternatives for precision tooling
- Netherlands sees sharp decline (-39%) but remains the #2 source

If 2025 reciprocal tariff rates were applied to 2024 import volumes, U.S. fabs would face an estimated $1.1B in additional tariff costs — a substantial increase driven largely by exposure to Chinese tool components

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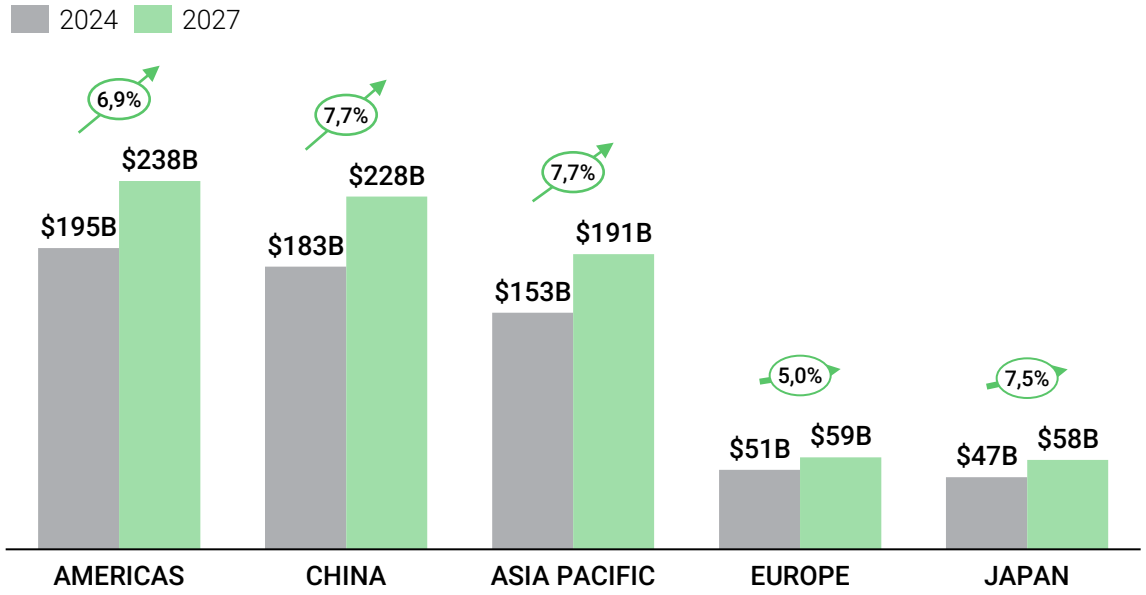
Source: HS Code: 8486.90 - Machines And Apps Used Soley For Manufacture Of Semiconductor Boules Or Wafers, Etc
1. All 2025 Reciprocal tariff data is as of 04/10/2025

Tariff engineering will be key as retaliatory tariffs increase market bifurcation and manufacturing location determines access to regional chip markets

Global Semiconductor Market Outlook (2021–2027)



Key Insights

- **Asia-Pacific incl. China exceed 50% of global demand**— drive to maintain regional production
- **Asia-Pacific incl. China semiconductor market outgrows other regions and is set to add** $83B in annual revenues, making regional access critical for fab strategy

China's Retaliatory Tariffs Redefine Chip Strategy

Policy Trigger

- **China imposed 125% retaliatory tariff** (Apr 2025) on U.S.-origin semiconductors
- Chips **fabricated outside U.S. exempt**
- **Tariff policy mirrors past retaliation** wrt rare earths

Strategic Corporate Response

- **U.S. firms rerouted production** to Taiwan
- **Fab location** now **determines tariff exposure,** not IP
- Shift **echoes 2019/20 moves to reroute assembly** out of China and maintain export access

Supply Chain Impact

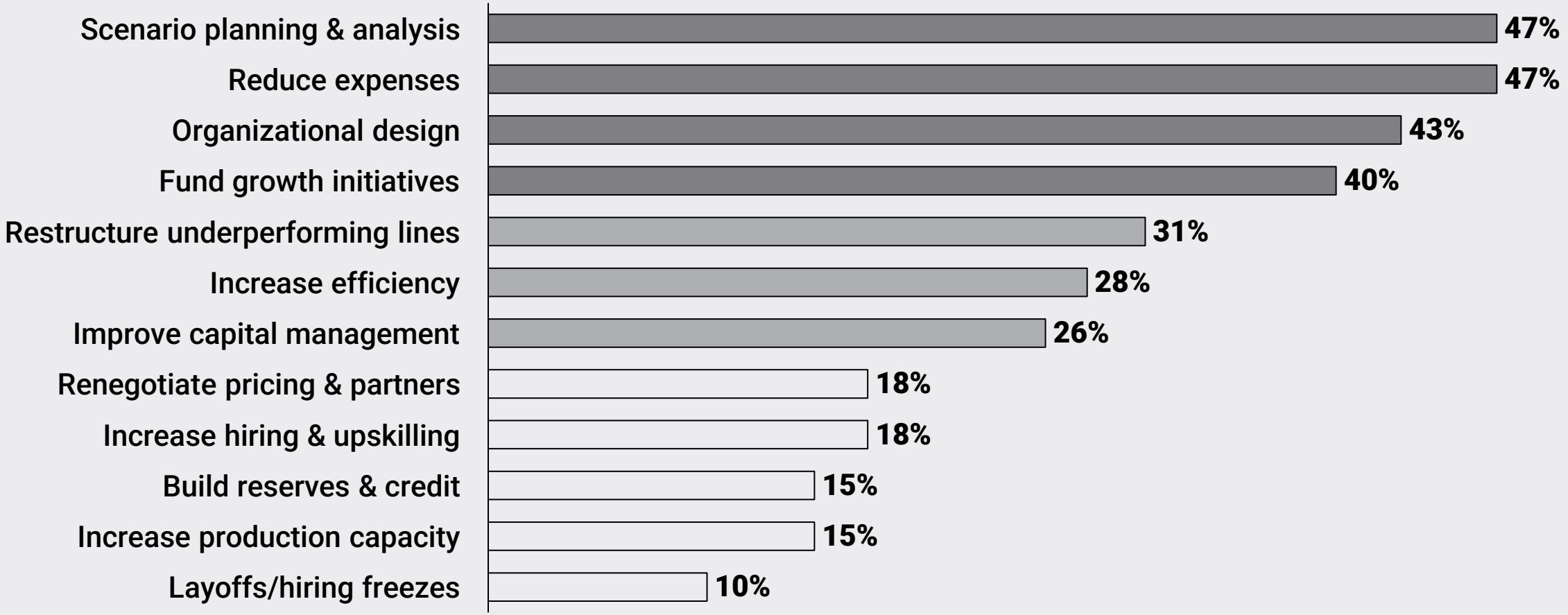
- Tariffs **driving supply chain route changes** for tariff minimization
- Tariff **impact can exceed co-location synergies**
- **U.S. reshoring still costly** without major incentives

As retaliatory tariffs are putting pressure to offshore on U.S. chip production to preserve access to China, the bifurcation of the global semiconductor supply chain continues

Source: AlixPartners research

Industry Leaders are **pro-actively** acting in a number of ways

Actions already being taken by leading companies to facilitate growth (multiple selections possible)



Four Imperatives for Success
Leading companies act boldly

1
Aggressively re-evaluate and adjust business portfolio and organization

2
Actively manage the impact of disruptions on the cost of capital and cash

3
Tight control and transparency through e.g., Tariff War Room

4
Proactively optimize costs, supply chain and workforce skills