



# SEMI Supply Chain Survey

## Benchmarking the Health of the Semiconductor Supply Chain

2025

**SCM** SUPPLY  
CHAIN  
MANAGEMENT

CONNECT - COLLABORATE. - INNOVATE. - GROW. - PROSPER

# Very nice to meet you all



**Henry Marcil**  
*Partner*  
*San Francisco*

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Leader in McKinsey's Advanced Industries Practice, focused on semiconductor and key end markets (e.g., high tech)  
Leads McKinsey's Resiliency and Geopolitics service line in Semiconductor



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*Engagement Manager*  
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Manager in McKinsey's Operations practice, with a focus on product development and procurement service lines  
Leads Supply Chain studies for Advanced Industries clients including Aerospace, Auto and Semiconductors



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Manager in McKinsey's Operations Practice, focused on procurement and capital projects  
Leads Operations projects at Foundries, IDMs, and equipment clients



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Manager in McKinsey's Operations Practice, focused on procurement and capital projects  
Leads Operations projects across diverse semiconductor and equipment clients

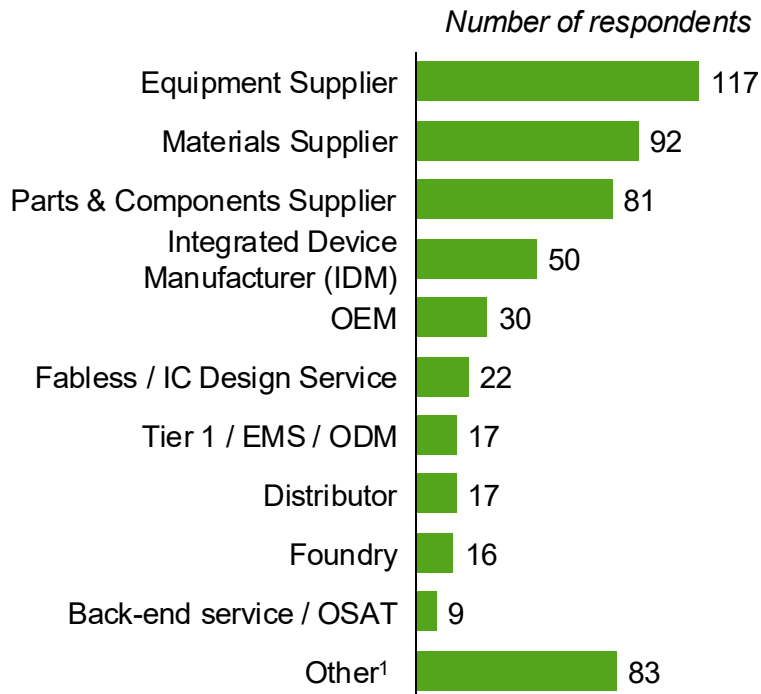
# Introduction to the SEMI Global Semiconductor Supply Chain Survey

The Supply Chain Survey measures the operational “health” of the semiconductor supply chain. This year there were >500 respondents across major device and materials categories this year



## Who participated?

500+ responses annually



## What devices and supply categories were covered?

### Devices

- Analog IC
- Discretes
- Logic
- Memory
- Microcomponents
- Optical Sensors & Actuators

### Materials

- Assembly
- Chemicals & Solids
- Flat Panel Display
- Gases
- Mask Making
- Nanotechnology
- Photovoltaic
- Process
- Substrate
- Test



## What were the focus areas?

- Customer Demand
- Demand and supply visibility
- Forecasting visibility
- Inventory update
- Long Term Agreements (LTA)
- Production utilization
- Supply chain risks and opportunities
- Supply lead times
- Supplier commits
- Capabilities

1. Includes service providers and professional services firms such as business consulting organizations

## Executive summary

The semiconductor supply chain continues to adapt to complex external dynamics – in particular, demand bifurcation (leading vs lagging), COVID “hangover” effects, and geopolitics

Overall supply dynamics show signs of improved health (e.g., normalized inventory levels) combined with upswings in lead time indicative of supporting demand ramp

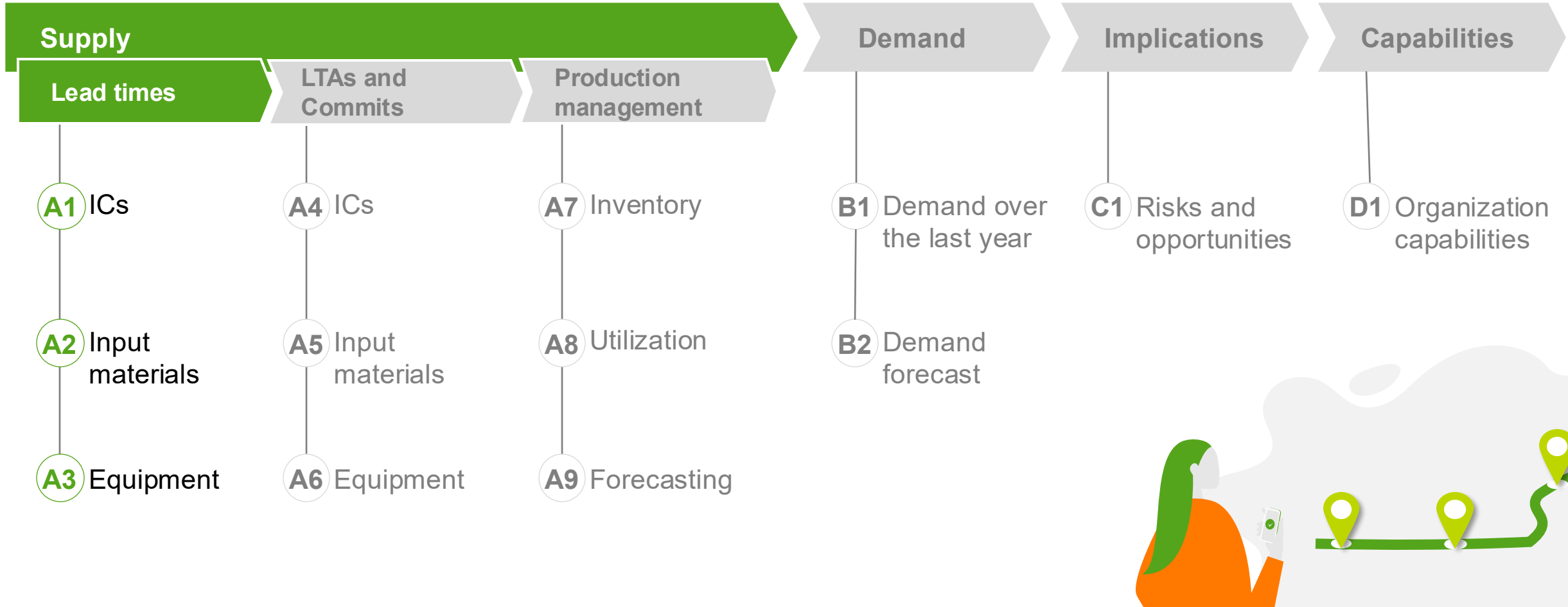
Variations in demand have created pockets of high utilization and performance, especially leading-edge logic and end products that enable AI (e.g., cloud & server)

AI adoption and deployment continue to be the industry’s leading opportunity (40% of respondents); geopolitical and trade relations expected to be the largest threat to stability (39% of respondents)

Many respondents report capability strengths in traditional supply chain activities (e.g., supply, demand, inventory planning)...

... but less than 10% of respondents have meaningfully integrated AI into their operations

# Roadmap for the 2025 SEMI Supply Chain Survey



# A How to read lead time data

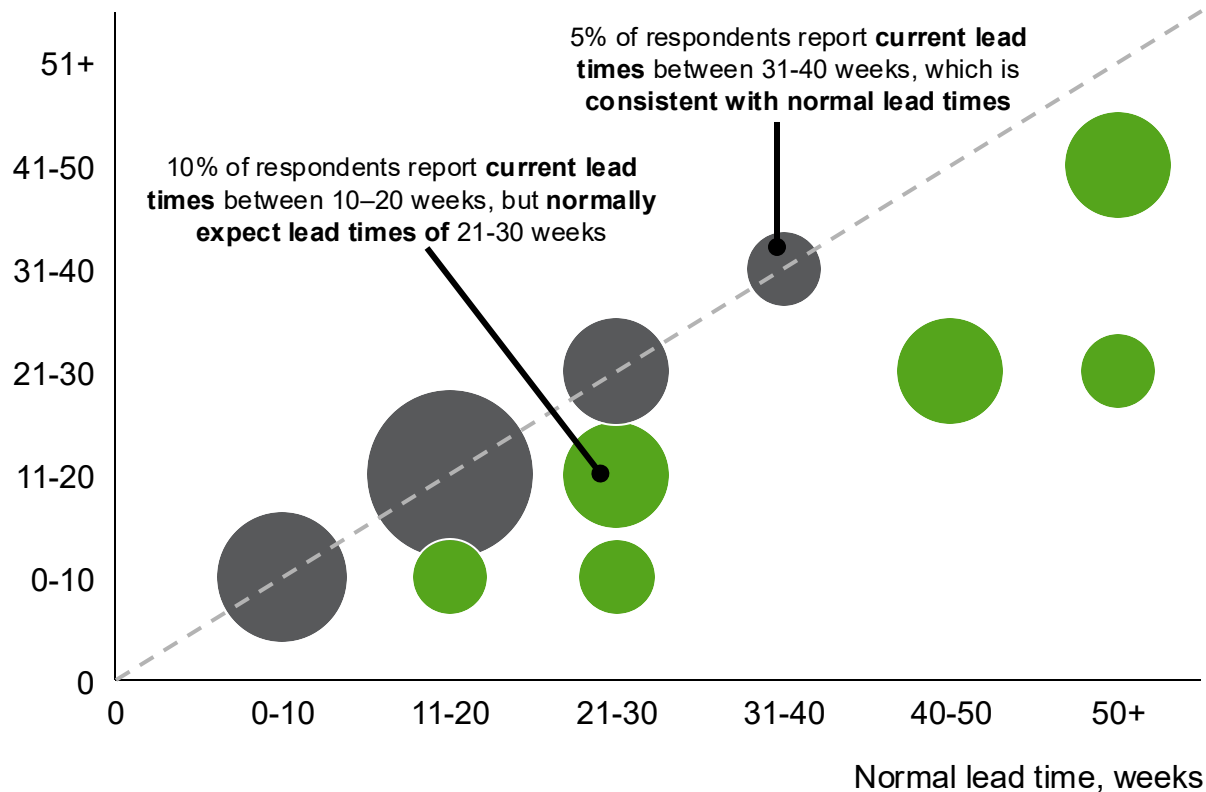
Illustrative slide: Data displayed is not collected from respondents

## Respondents observe better than normal lead times

% of respondents, n = number of responses

- Normal
- Shorter than normal

Current lead time, weeks

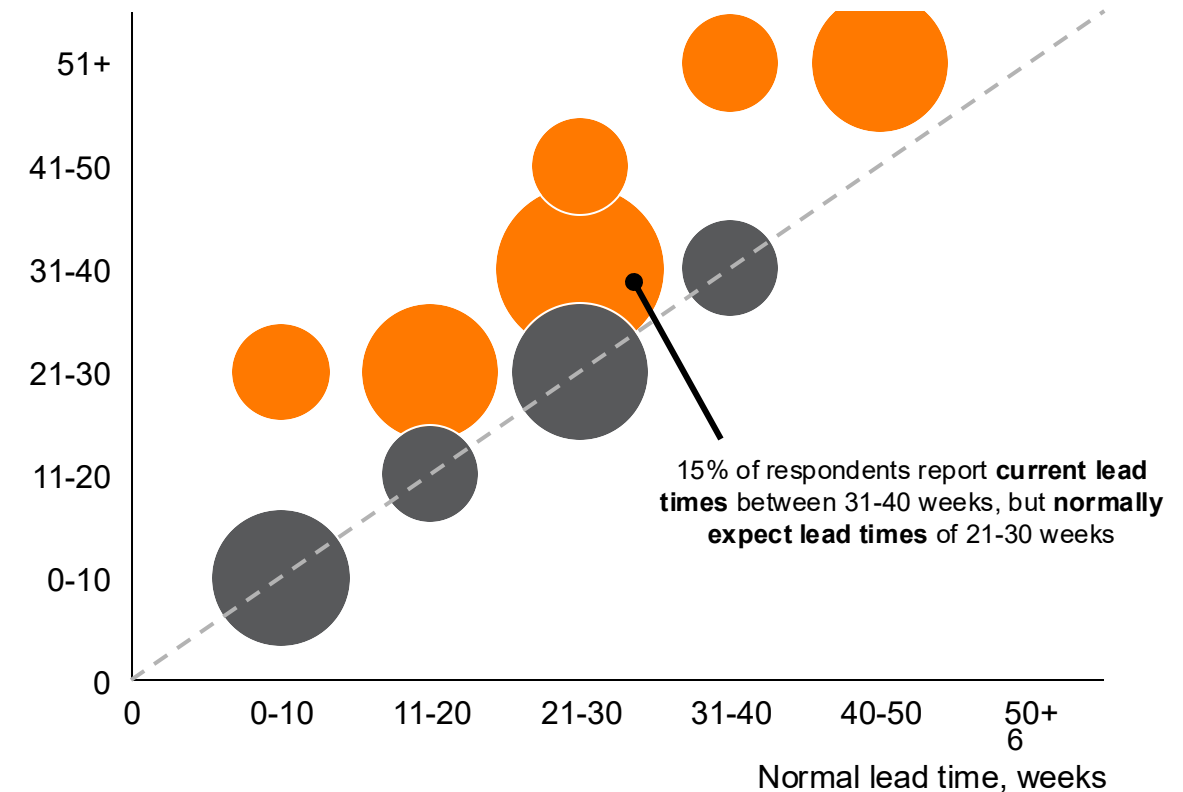


## Respondents observe worse than normal lead times

% of respondents, n = number of responses

- Normal
- Longer than normal

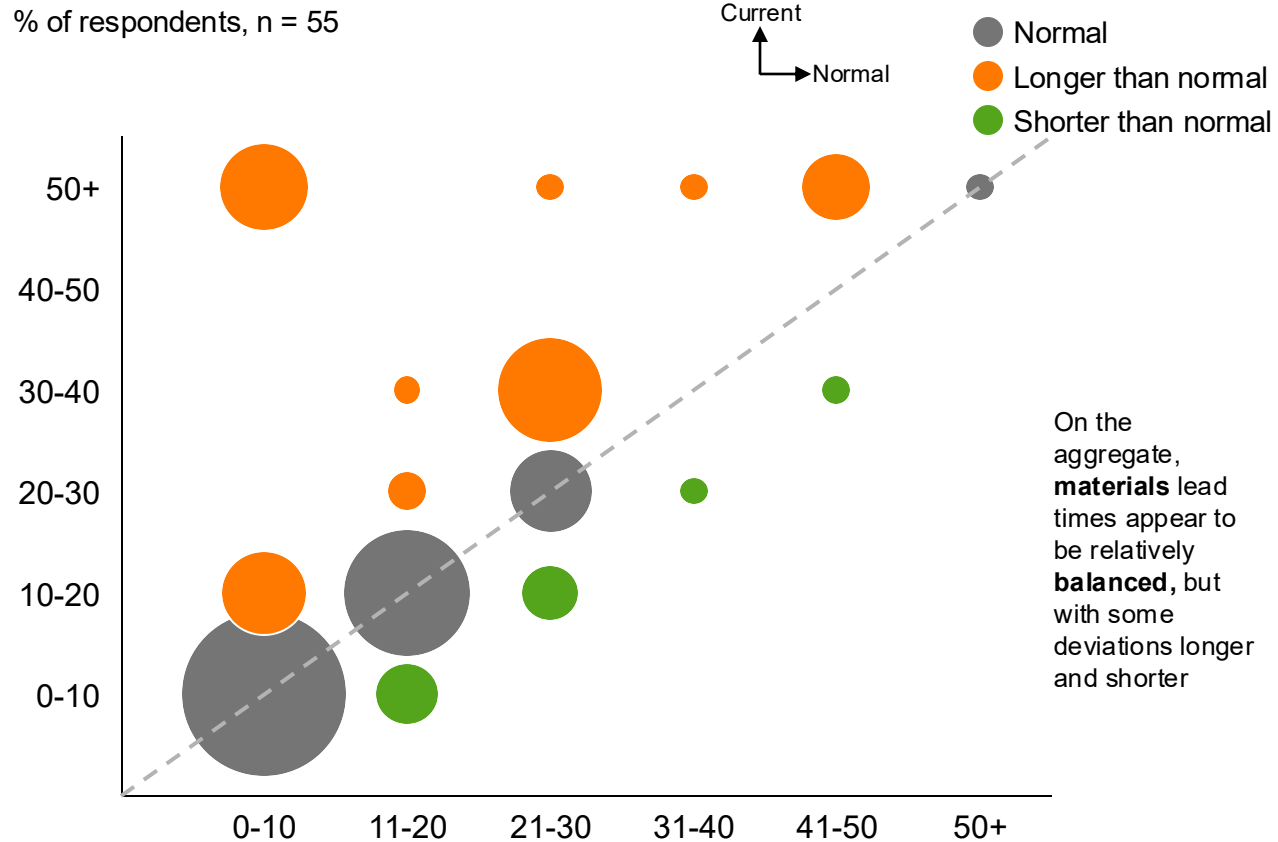
Current lead time, weeks



## A2 Lead times – Materials overview

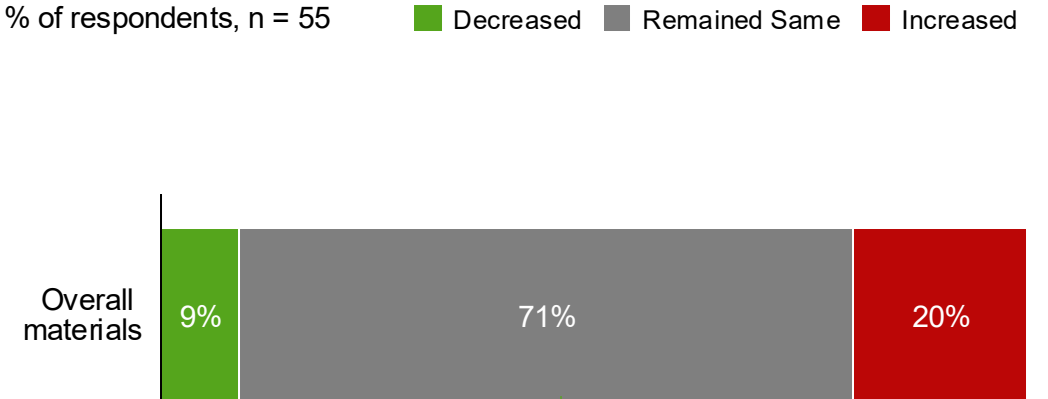
Respondents reported input material lead times higher than expected and increasing

### What is the current lead time vs. normal lead time across input materials (in weeks)?



### How have lead times changed compared to last quarter?

% of respondents, n = 55



Materials lead times show more quarter-over-quarter stability compared to last (71% “remained the same” vs. 52% in 2024)

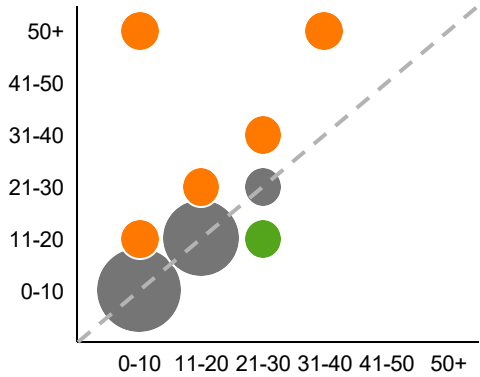
# A2 Lead times – Input materials deep-dive

Respondents reported input material lead times are higher than expected and increasing

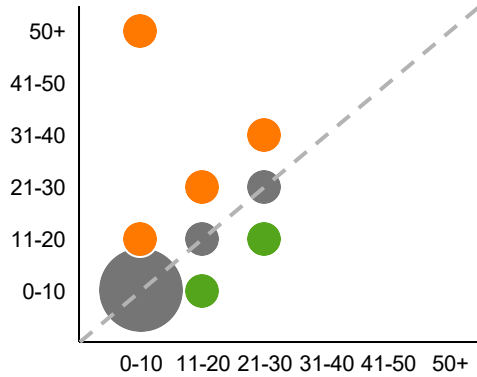
What is the current lead time vs. normal lead time across input materials (in weeks)?



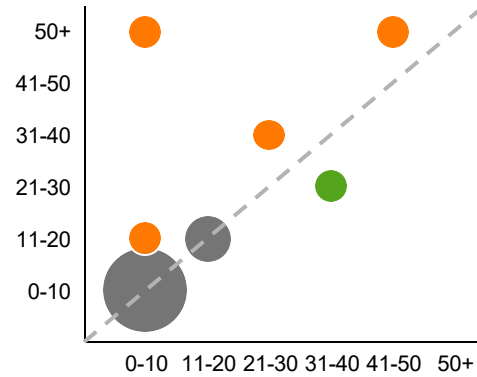
Chemicals & Solids, %, n = 16



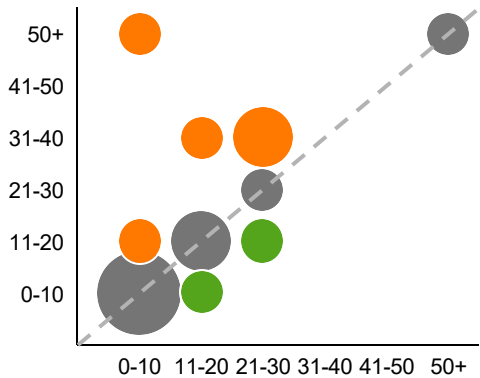
Gases, %, n = 15, 14



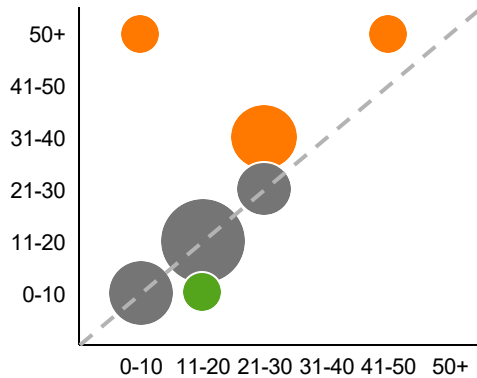
Mask making, %, n = 14



Process, %, n = 15



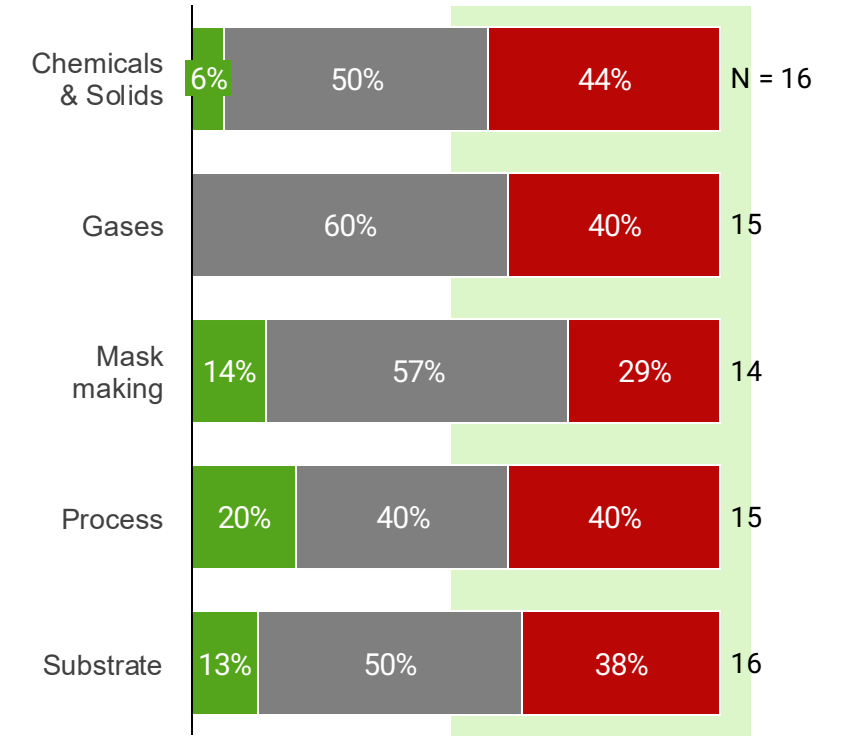
Substrate, %, n = 16



Respondents have experienced longer-tail (31-50+ week) lead times across all input materials

An increasing proportion of respondents indicated extended lead times (~30-45% vs. ~20-30% in 2024)

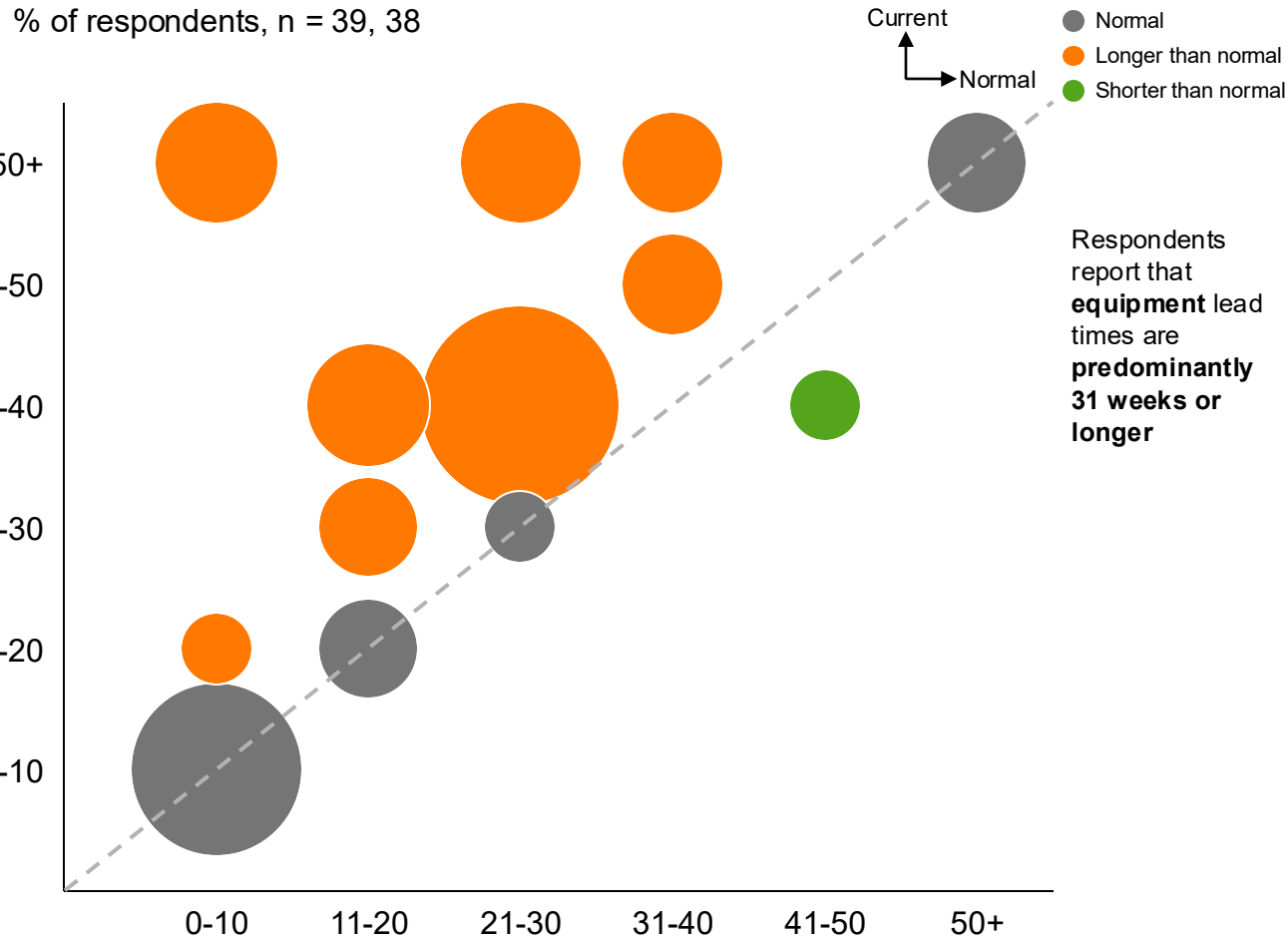
How have lead times changed compared to last quarter?



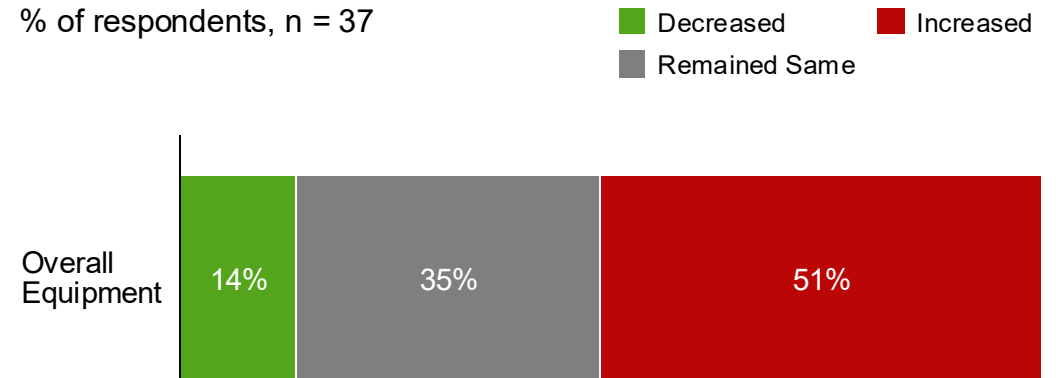
# A3 Lead times – Equipment overview

Compared to last quarter, ~86% of the respondents believe overall equipment lead times have remained the same or increased, and are still longer than normal levels

What is the current lead time vs. normal lead time across equipment (in weeks)?

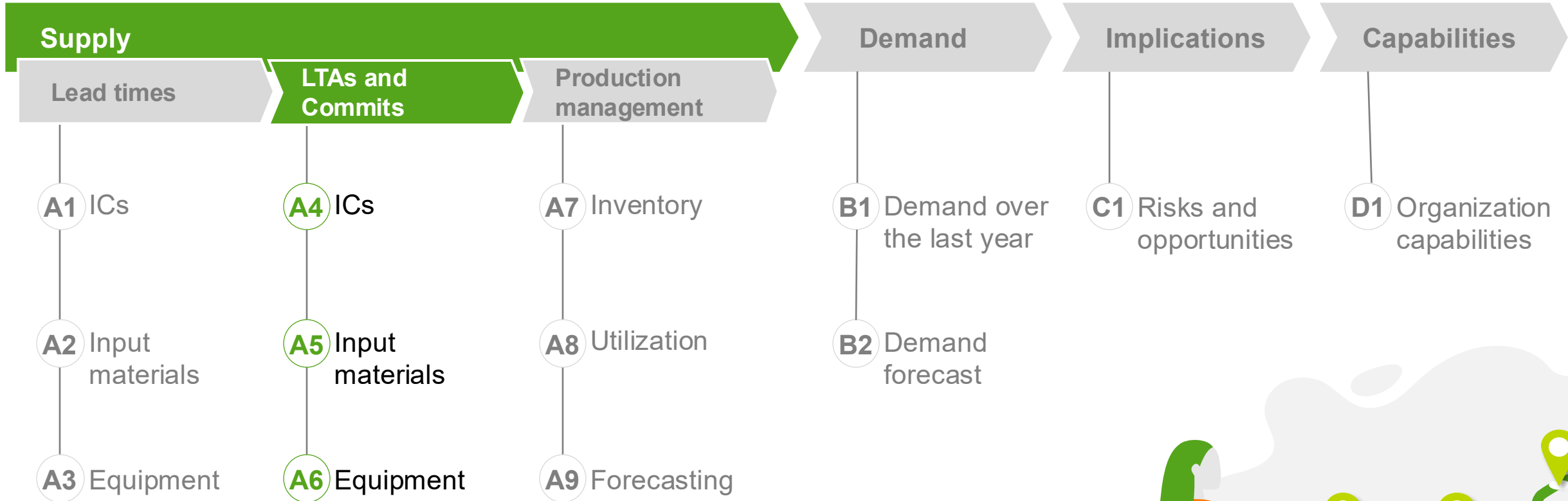


## How have lead times changed compared to last quarter?



A higher proportion of respondents indicated **increased quarter-over-quarter lead time for equipment** compared to last year (51% vs. 26% in 2024)

# Roadmap for the 2025 SEMI Supply Chain Survey



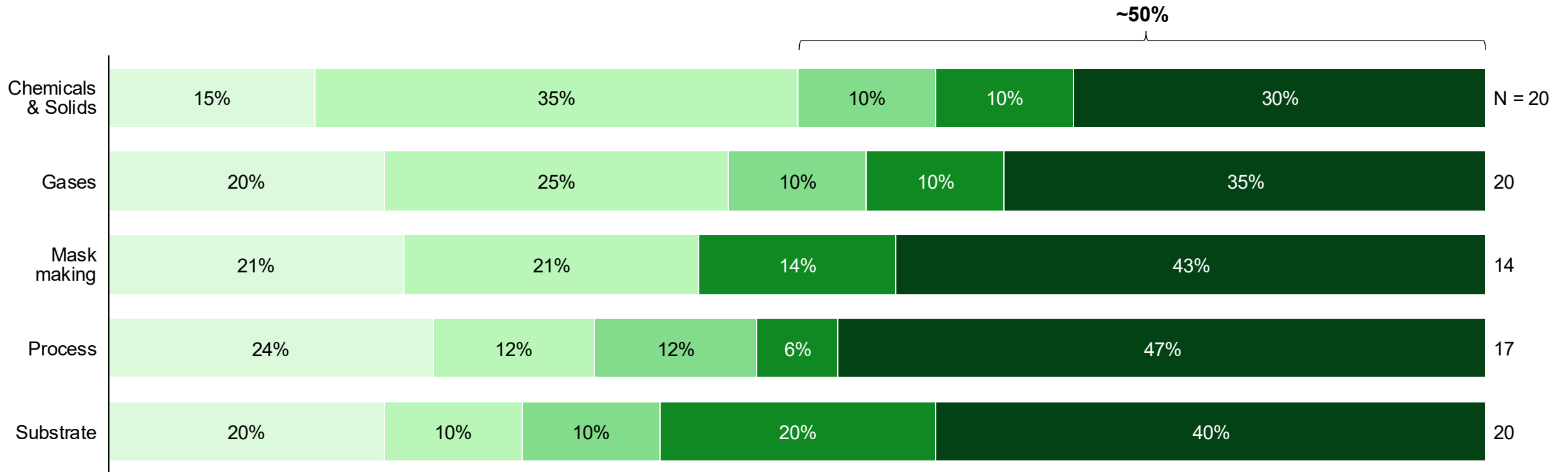
# A5 LTAs and Commits – Input Materials

~50% of respondents across input materials have greater than 50% of their input materials covered under LTAs. Prior year (2024) LTAs had 70%+ coverage

## What share of materials purchased from your suppliers are under LTAs?

% of respondents

Less than 10% 10 to 30% 31 to 50% 51 to 70% Above 70%



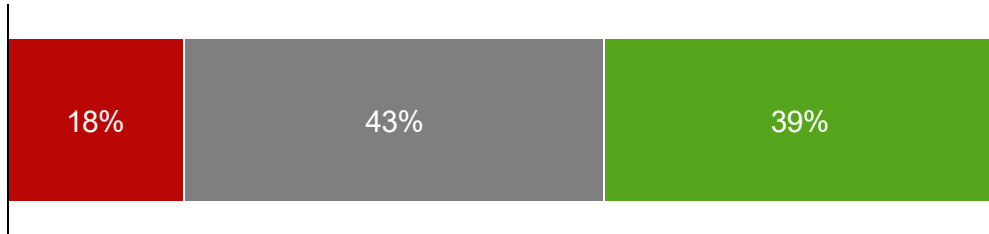
# A5 LTAs and Commits – Trends in commits and LTAs

82% of respondents believe share of material under LTA will remain the same or increase, with main reason for utilizing LTA are supply demand balance/constraints

How do you expect the average share of material purchased under LTA (or similar approach/arrangement) to change in next year (year 2026)?

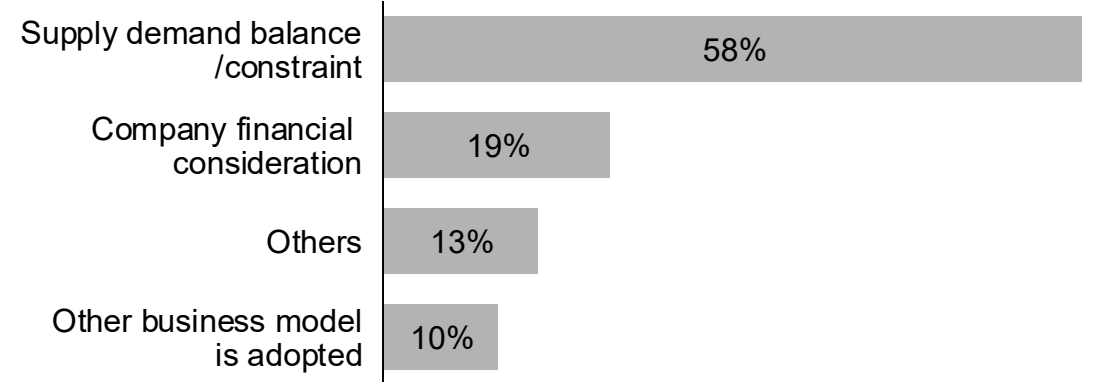
% of respondents, n = 251

■ Decrease ■ Will remain the same ■ Increase



What is driving the trend in utilizing LTA or similar approach/arrangement?

% of respondents, n = 331



# Roadmap for the 2025 SEMI Supply Chain Survey



Lead times

LTAs and Commits

Production management

Demand

Implications

Capabilities

A1 ICs

A4 ICs

A7 Inventory

B1 Demand over the last year

C1 Risks and opportunities

D1 Organization capabilities

A2 Input materials

A5 Input materials

A8 Utilization

B2 Demand forecast

A3 Equipment

A6 Equipment

A9 Forecasting



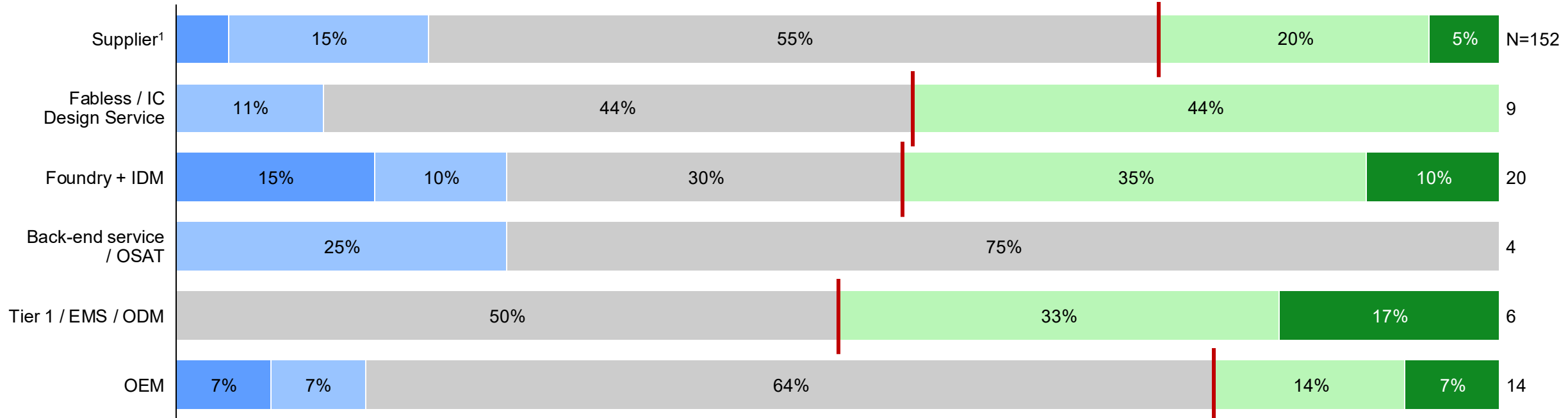
# A7 Production Management – Finished goods inventory

Most industry respondents report finished goods current inventory at or moderately above target levels

## What is the current vs. target inventory trend in your organization?

% and number of respondents

■ Significantly below target level   
 ■ About the same   
 ■ Significantly beyond target level  
■ Moderately below target level   
 ■ Moderately beyond target level



**Inventory levels have increased from 2024 where nearly all players were reporting below inventory target levels**

1. Consists of materials supplier, equipment supplier, and parts & components supplier

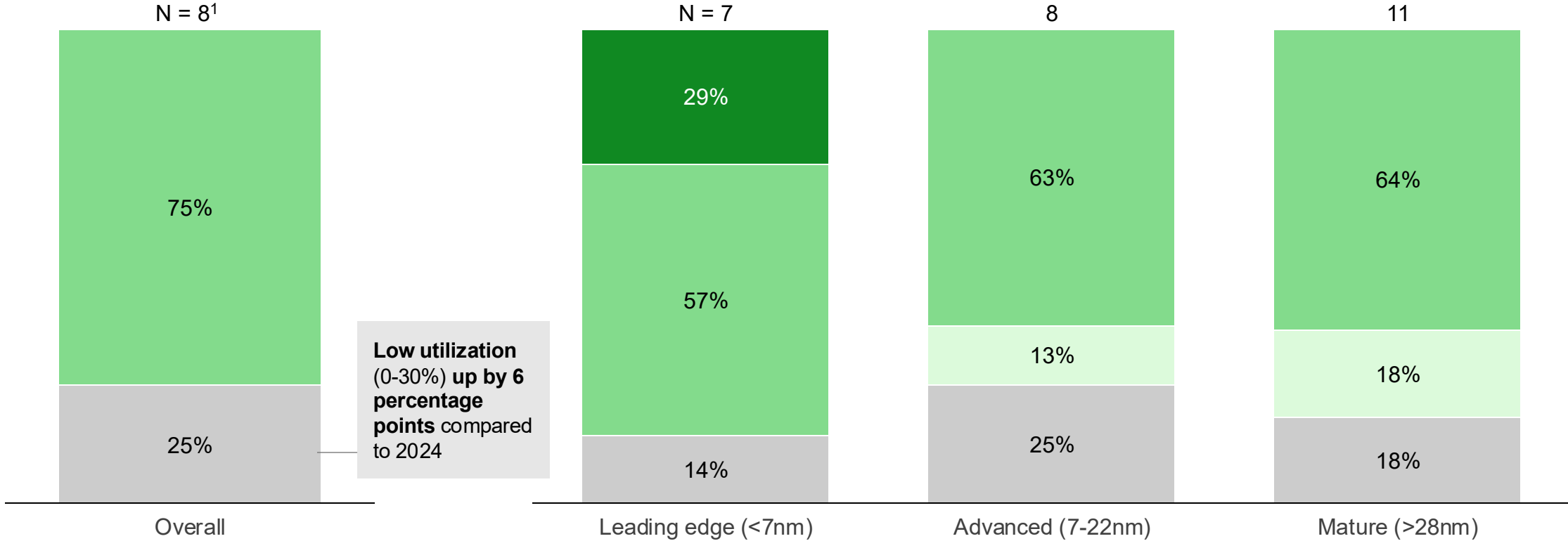
# A8 Production Management – Utilization

Most industry respondents are at production utilization rates of 61-90%

## What is the current utilization of your production capacity?

0-30% 31-60% 61-90% More than 90%

Node size, % of respondents



1. Reference: Question which asked about overall capacity utilization; sample not tied to responses by individual node size

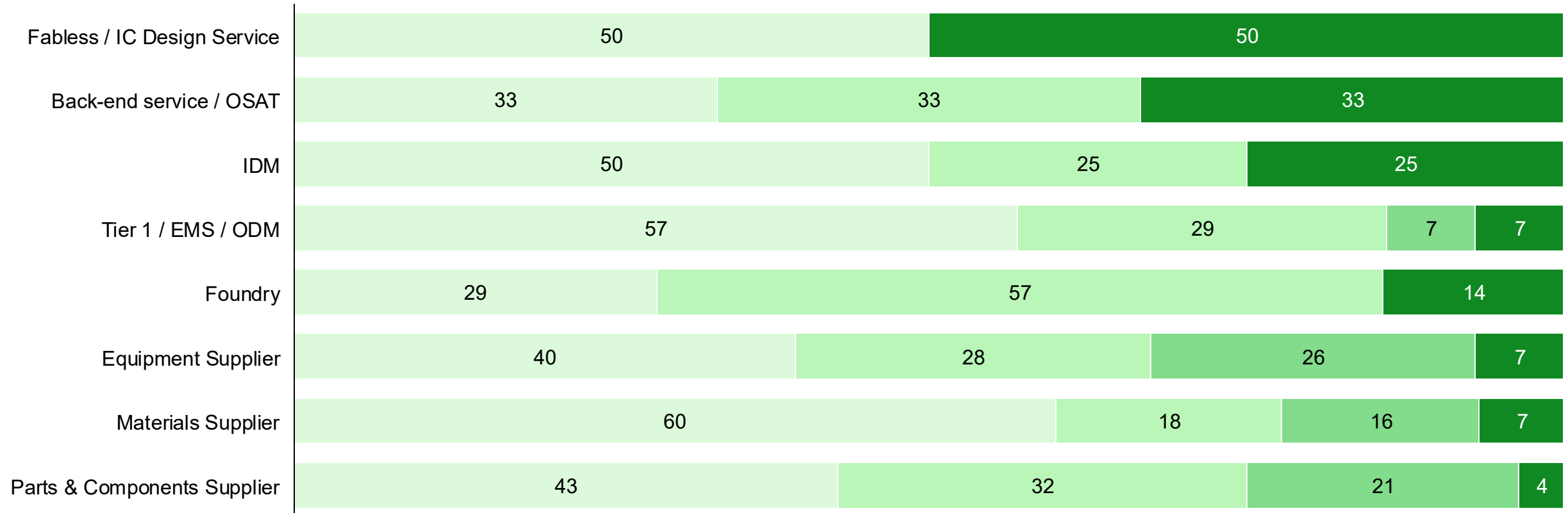
# A9 Production Management – Demand forecasting

Long term visibility into customer demand is relatively constrained, with 30-60% of customers giving less than 20 weeks

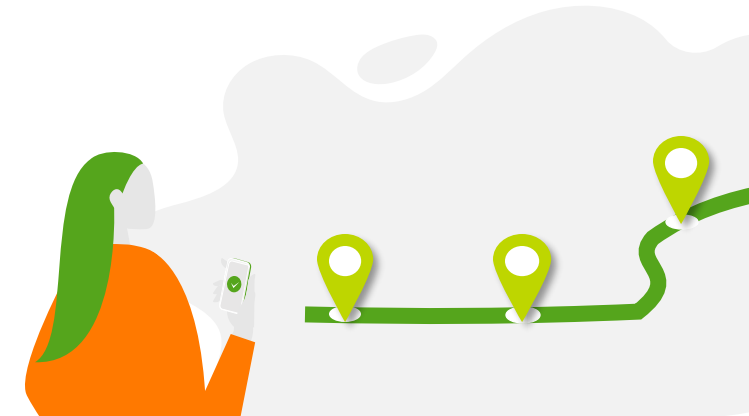
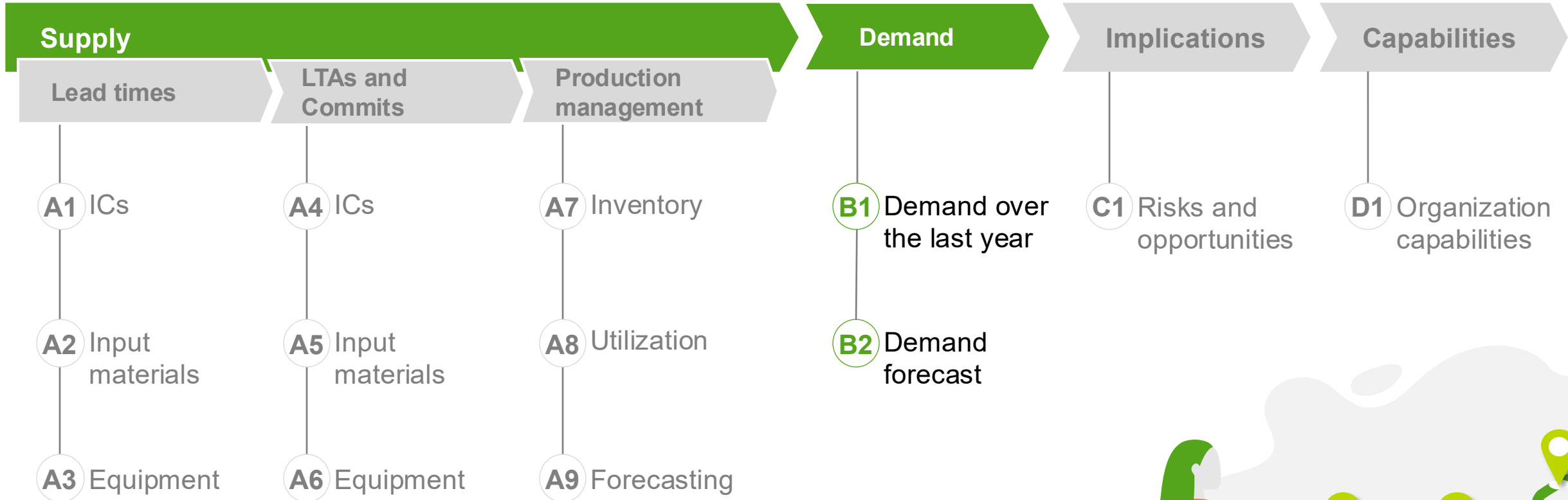
How much visibility do customers provide about demand forecast? (in weeks)

0-20 weeks 21-40 41-60 61-100

% of respondents, n = 151



# Roadmap for the 2025 SEMI Supply Chain Survey



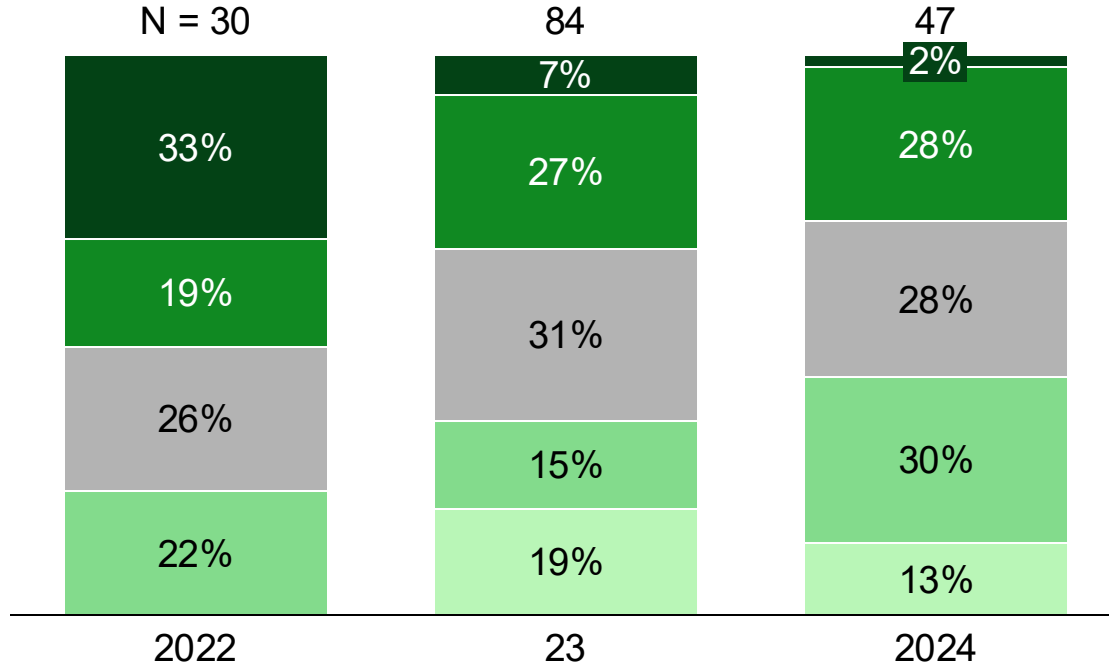
# B1 Customer Demand – IC demand

IC demand in 2024 (from 2025 survey) has decreased relative to 2023 (from 2024 survey); Logic is the only segment with any meaningful increase

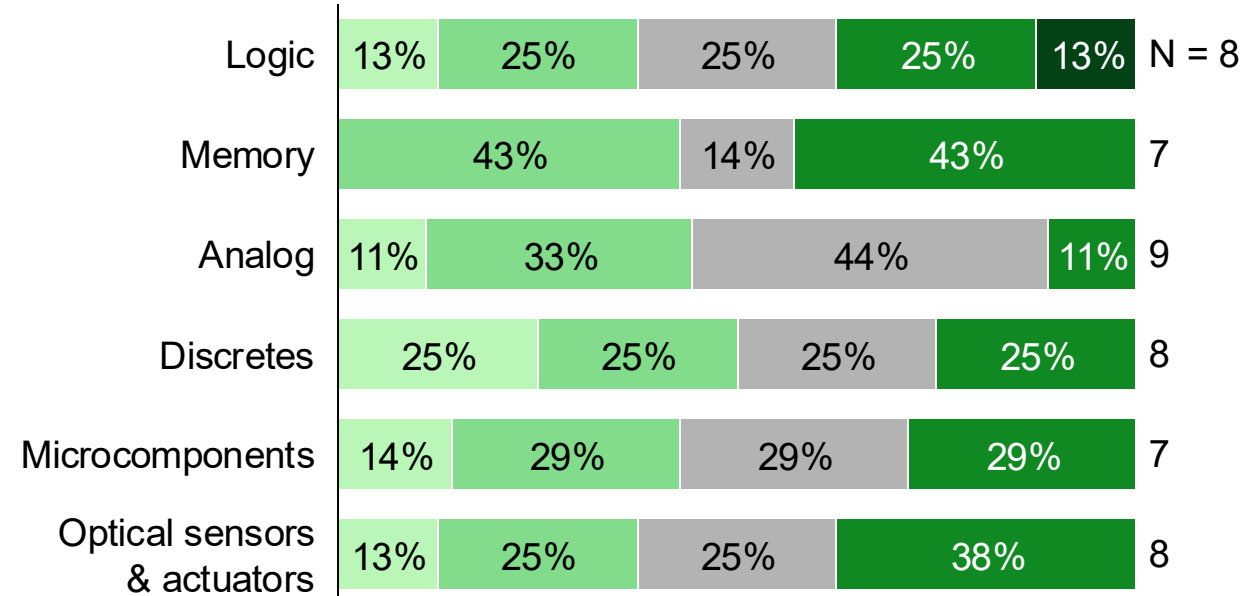
Strongly decreased (greater than -10%)    Moderately decreased (-3% to -10%)    Remained the same (within 3% range)    Moderately increased (3 to 10%)    Strongly Increased (greater than 10%)

## Compared to same quarter in previous year, what is the change in customer demand?

IC producers, % of respondents



% of respondents

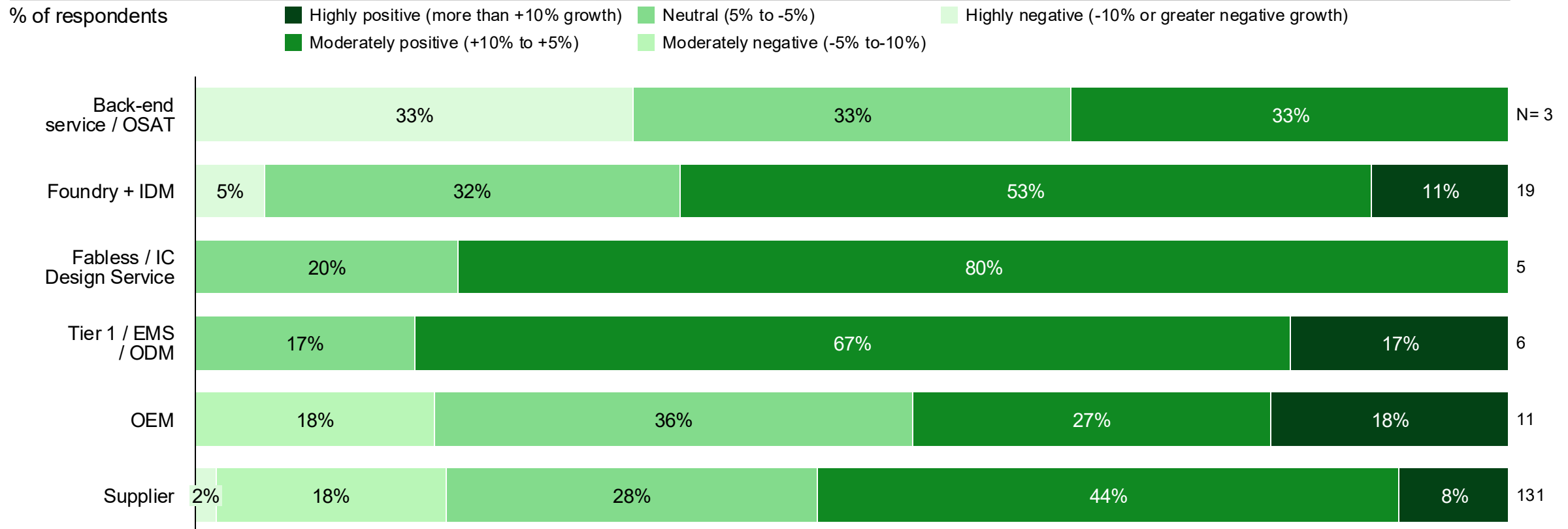


1. 2023 SEMI SC survey results were adjusted to match reporting structure in 2024

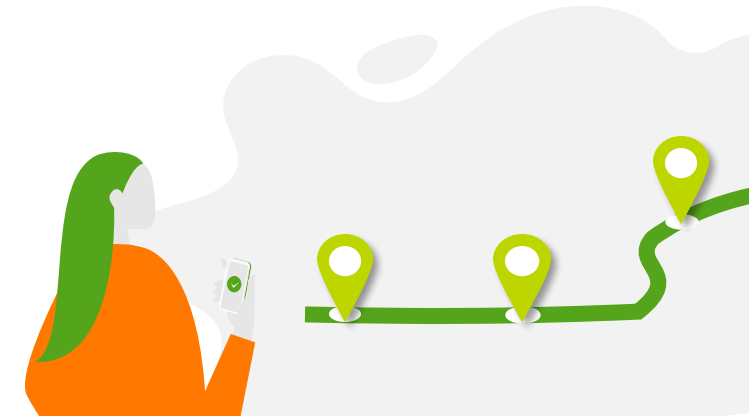
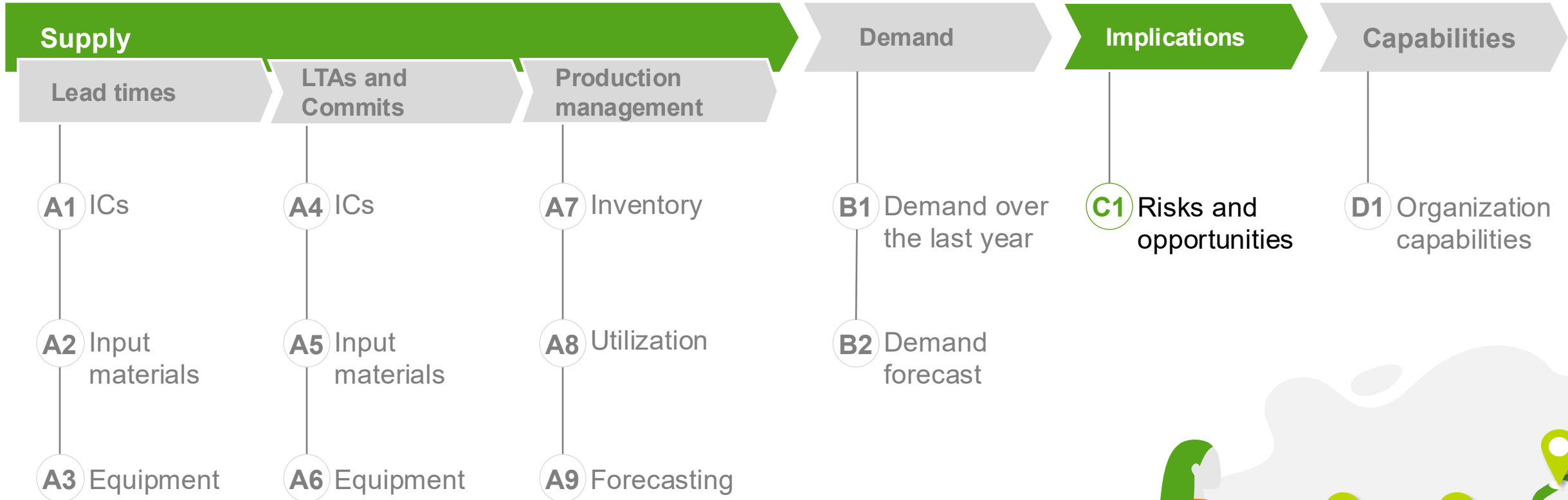
# B2 Demand forecast – Outlook next 12 months

Over 50% of respondents expected revenue to increase for the overall supply chain

## What is your view on the revenue growth outlook for overall semiconductor supply chain for the next 12 months?



# Roadmap for the 2025 SEMI Supply Chain Survey

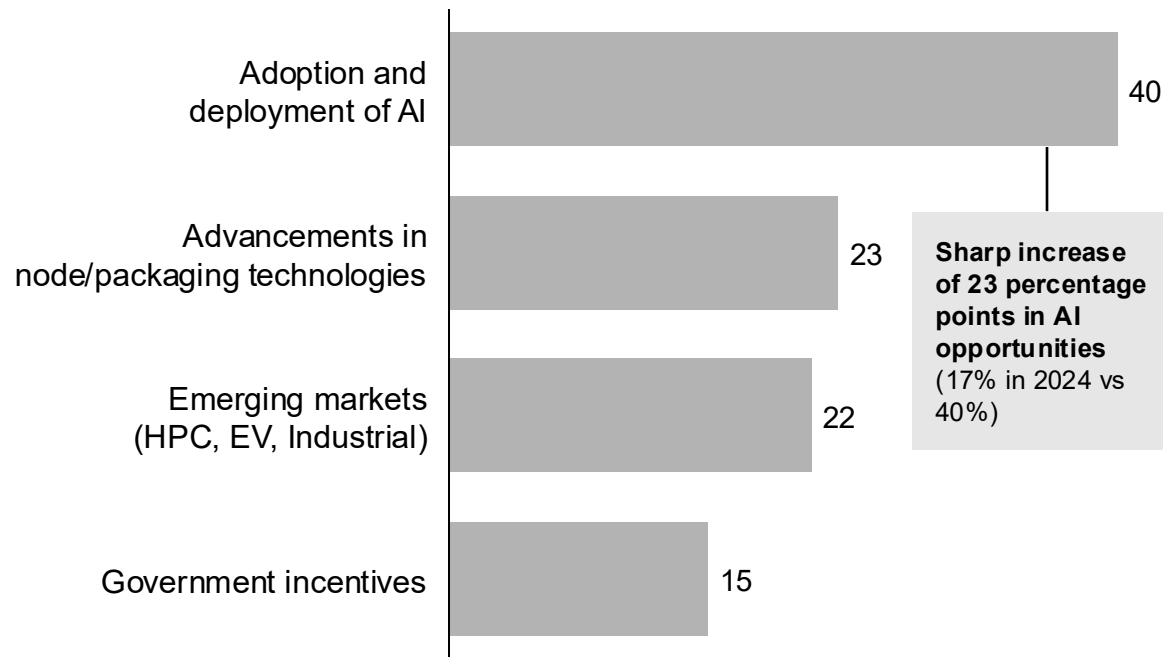


# C1 Implications – Risks and opportunities

Adoption and deployment of AI is perceived to be the biggest supply chain tailwind, with geopolitical and trade relations posing as the biggest threats to the supply chain

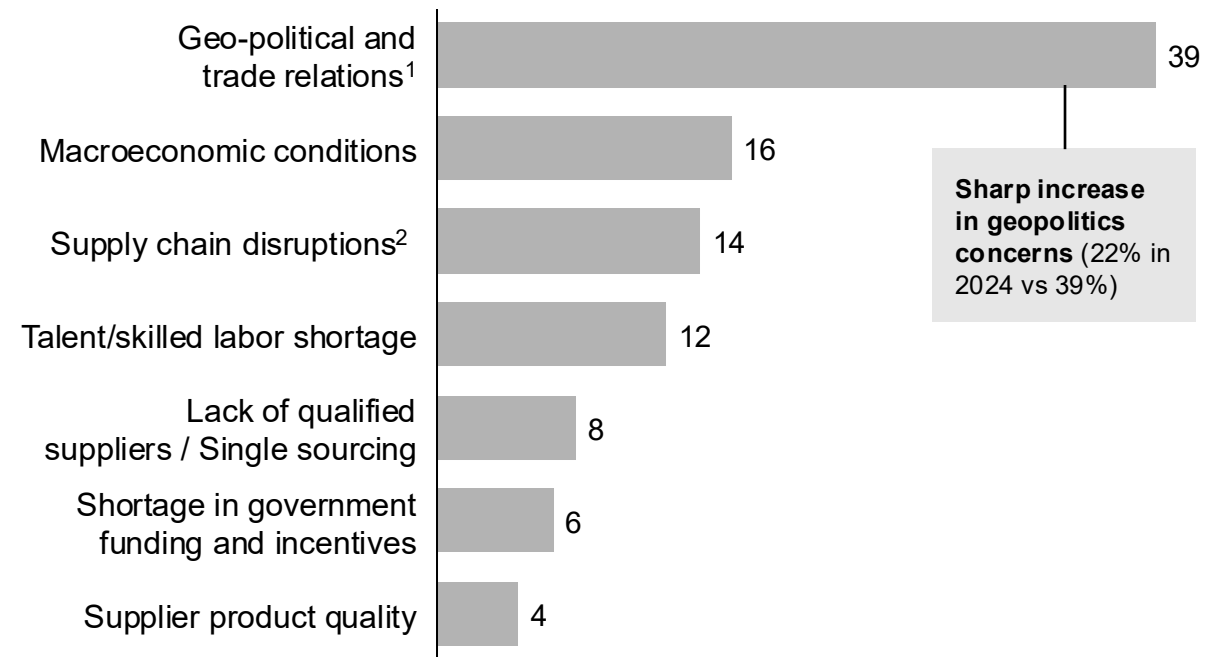
Which of the following developments do you perceive as biggest opportunity for the semiconductor supply chain in the next 12 months?

% of respondents, n = 230



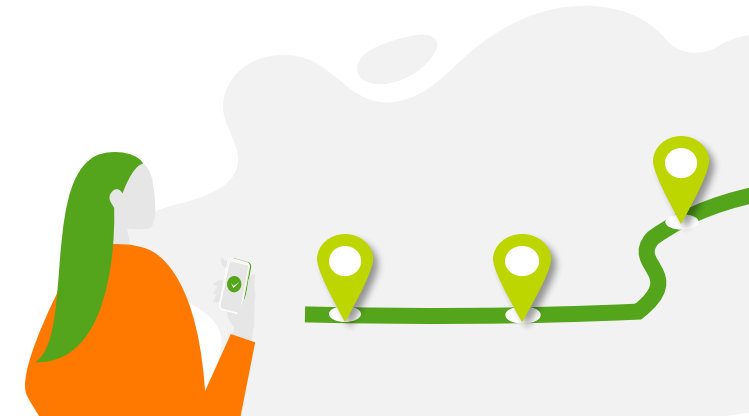
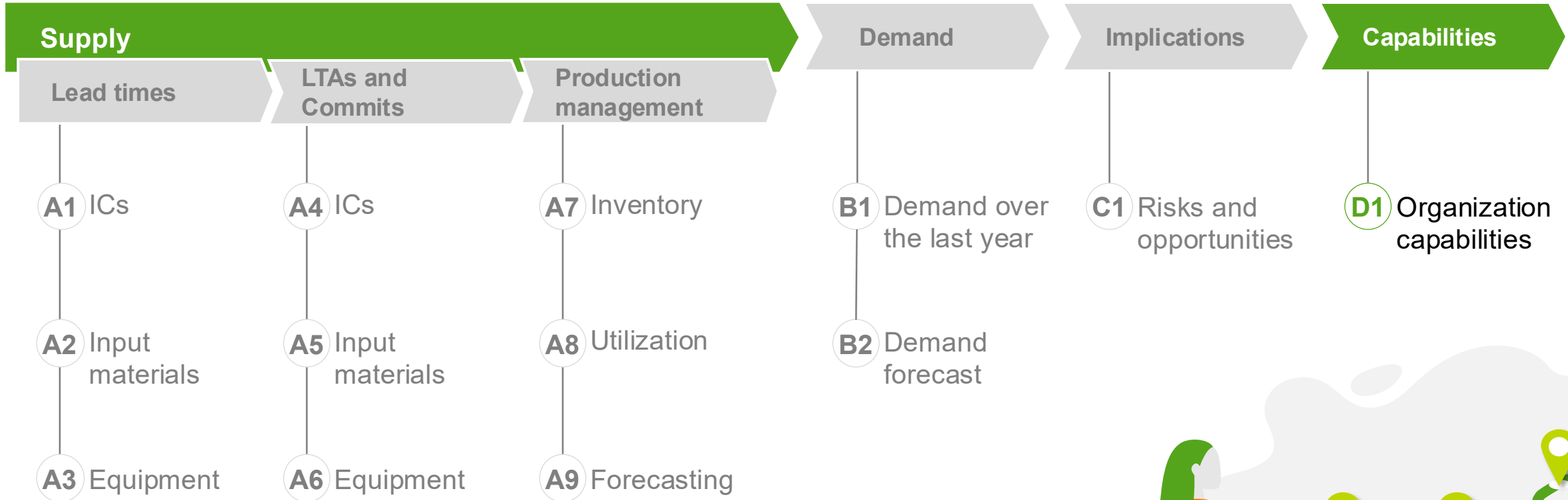
Which of the following developments do you perceive as the biggest long-term threat to your company's supply chain (beyond 6 months)?

% of respondents, n = 238



1. Political conflicts, regional war, trade restrictions/tariffs etc.  
 2. Natural disasters, capacity shortage, energy shortage, cybersecurity risks, etc.

# Roadmap for the 2025 SEMI Supply Chain Survey

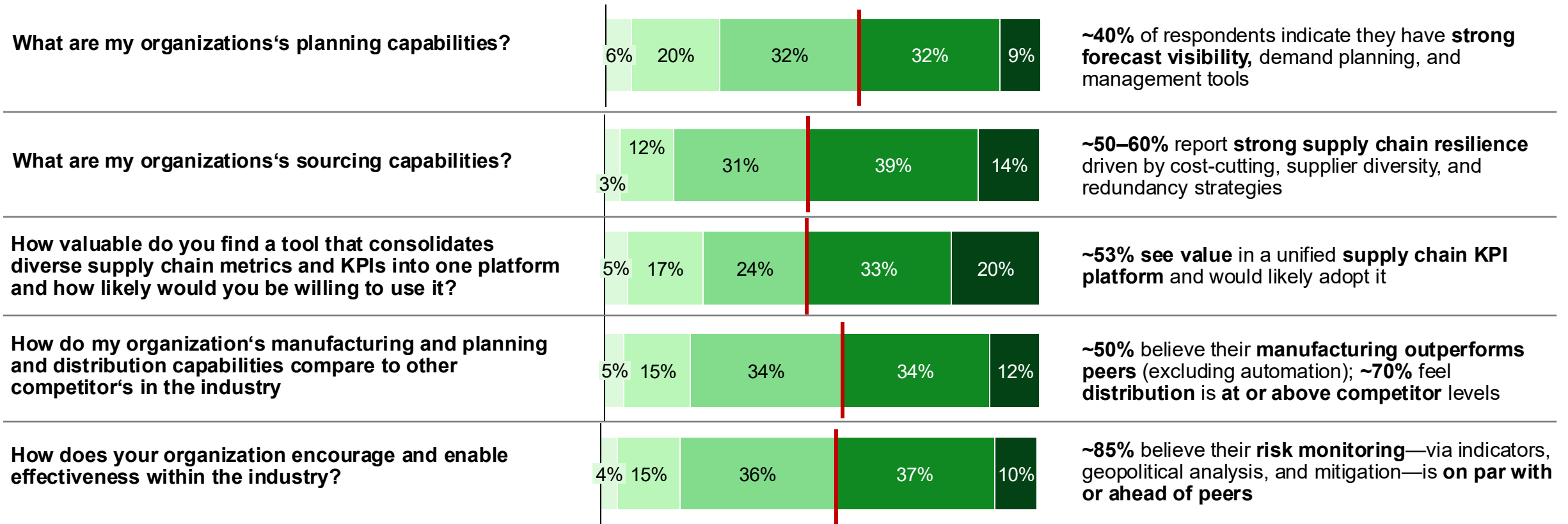


# D1 Organizational Capabilities – Overview

Most respondents believe they have reliable supply chains and strong operational processes—but are still investing in planning tools, automation, and AI integration

% of respondents

Strongly disagree Disagree Neutral Agree Strongly agree

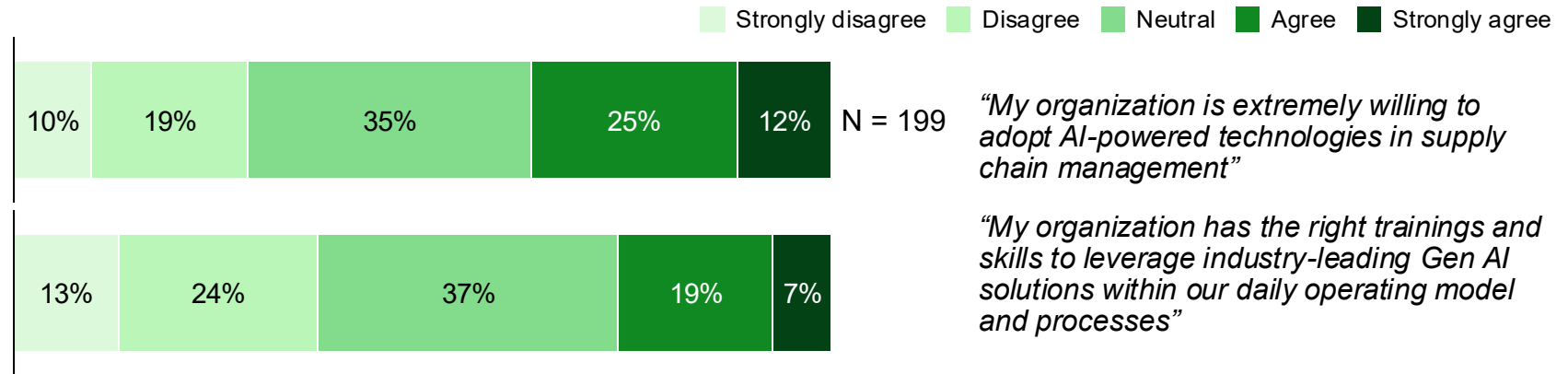


Note: Aggregation of question responses, detailed responses on subsequent pages (including survey responses about current and future AI adoption)

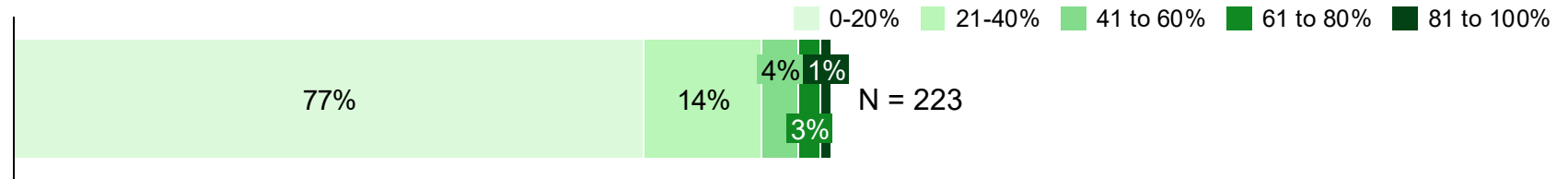
# D1 Organizational Capabilities – AI adaptation

AI adoption remains limited among semiconductor players: only ~25–35% feel prepared with the right skills, 77% report Gen AI is used in <20% of supply chain processes, though ~63% plan to integrate AI in the future

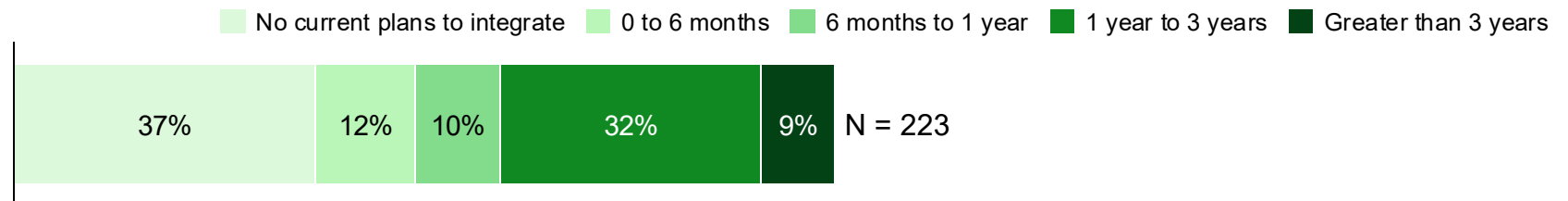
**AI adoption: How does my organization encourage and enable effectiveness within the industry?**



**What percentage of my organization's supply chain processes are currently leveraging GenAI?**



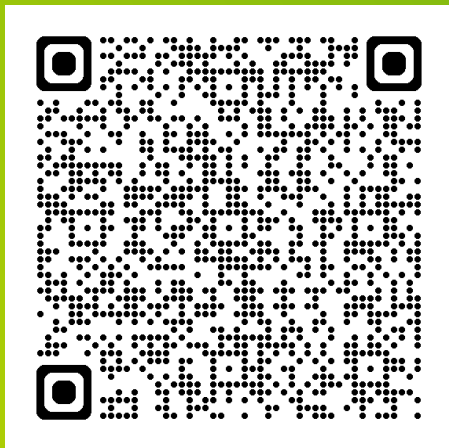
**My organization has a plan to fully integrate AI into our SC processes in the following time-frame**



# Questions?



**THANK YOU**



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CHAIN  
MANAGEMENT