



BUILD ELECTRONICS BETTER

The Current Sentiment of the Global Electronics Manufacturing Supply Chain

Monitoring the Pulse of the Global Electronics Industry

February 2023

[ipc.org](https://www.ipc.org) →

> Industry sentiment is little changed in February and continues to show solid performance

- The Orders Index remains elevated at 111 and the Orders Outlook Index looks very strong at 116.
- The Capacity Utilization Index slipped 3 points but remains strongly in expansionary territory at 108. Likewise, the Capacity Utilization Outlook Index remains fell 3 points but remains very strong at 115.
- The Material Costs Outlook Index fell to 127, the lowest level recorded. While these results suggest the majority of respondents still expect prices will continue to rise in the coming months, fewer respondents feel this way.
- The Inventory Available to Customers (IAC) Index and the IAC Outlook Index both fell this month, potentially suggesting that companies are working to lower inventory levels in advance of slower economic growth.

> Industry expects strong cost increases this year

- This month we asked a special question about cost expectations in 2023. The electronics industry expects costs to rise sharply this year. On average, electronics manufacturers expect labor costs to increase 9.2% over 2022 levels. They also expect material costs to rise 9.9% during year. Most surprising, the electronics industry reports that they expect freight costs to rise 7.2% in 2023.

> New digital initiatives for 2023

- This month we asked respondents what digital projects they expected to initiate this year. Roughly 14% reported EPR system implementation and enhancements were their number one project, the highest rank initiative.

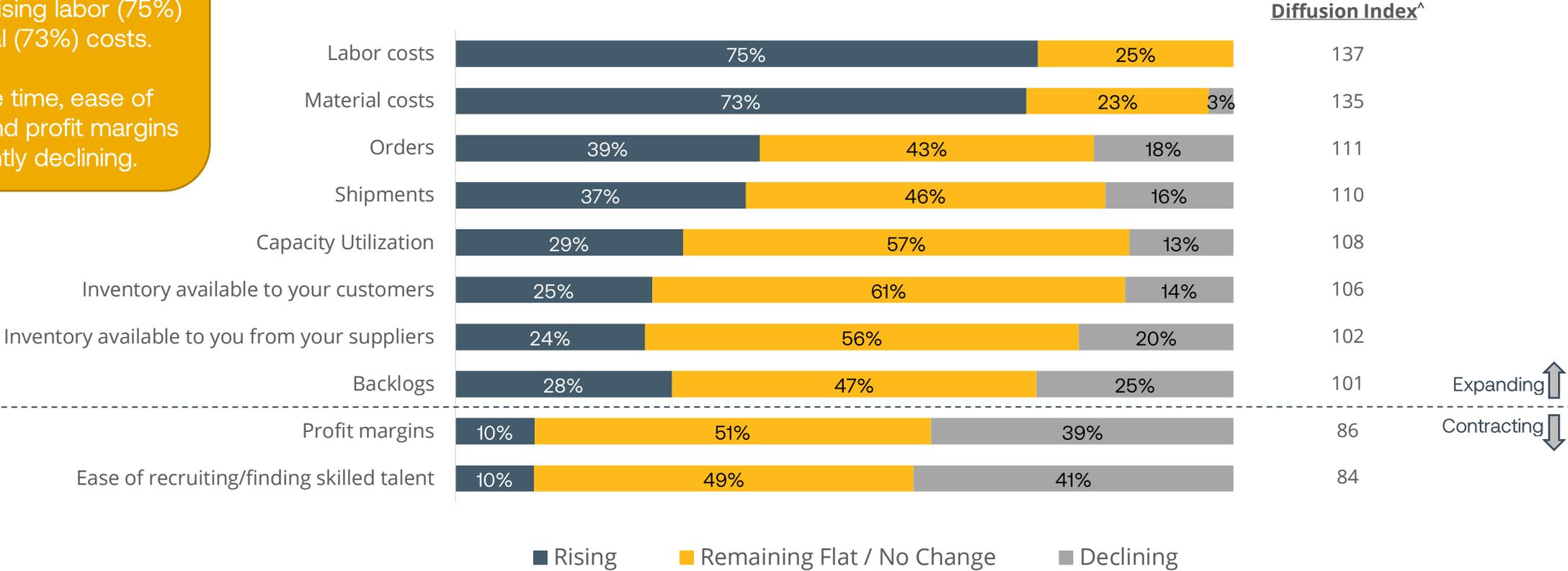
Current Conditions for the Electronics Supply Chain



Three-fourths of electronics manufacturers are currently experiencing rising labor (75%) and material (73%) costs.

At the same time, ease of recruitment and profit margins are presently declining.

Current Direction of Key Business Indicators -- Total --



[^]A diffusion index is a statistical measure used to detect economic turning points.

Regional Differences in Current Conditions



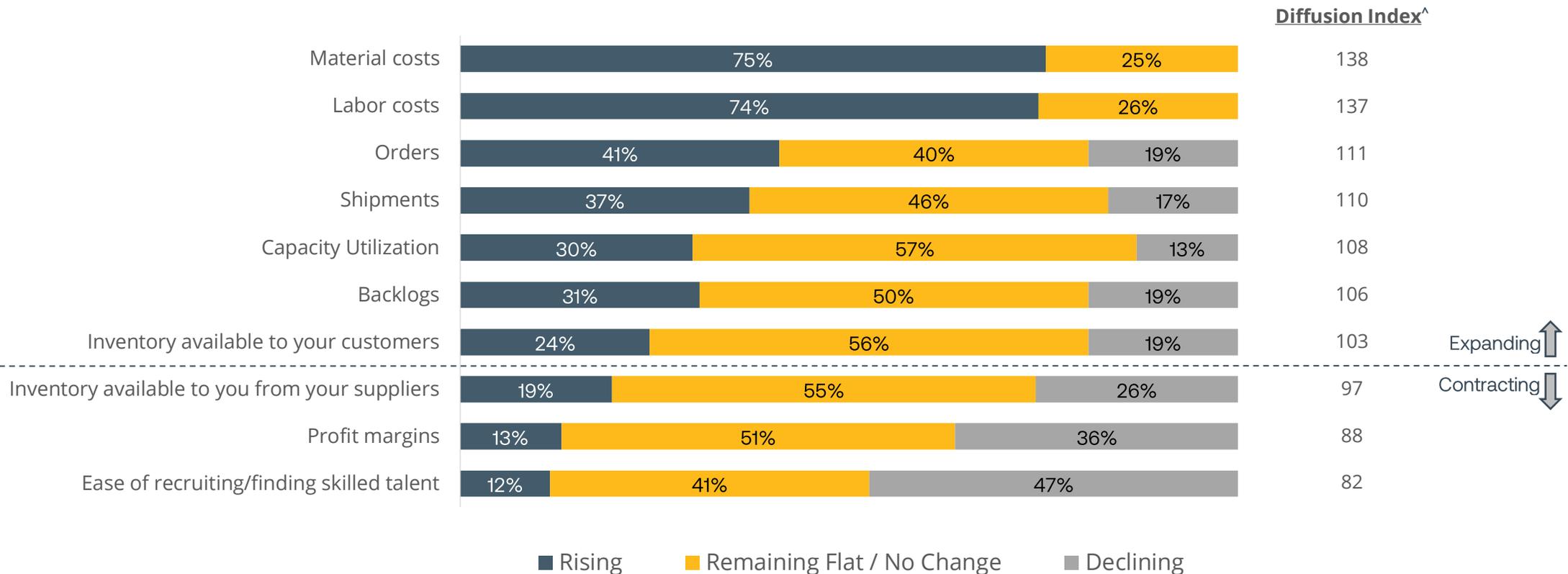
- **Material costs are declining at a faster pace among manufacturers in both APAC and Europe when compared to those in North America.**
 - While 9% of firms in APAC and 8% of firms in Europe indicate material costs are currently declining, 0% of firms in North America are reporting a current decline.
- **Supplier inventory is rising more so among manufacturers operating Globally vs. North America.**
 - More than half (53%) of Global firms indicate inventory available from suppliers is currently on the rise, which is significantly higher than the 19% reported by firms in North America.

The View From Companies Primarily Operating in North America



Current Direction of Key Business Indicators

-- Primary Region: North America --

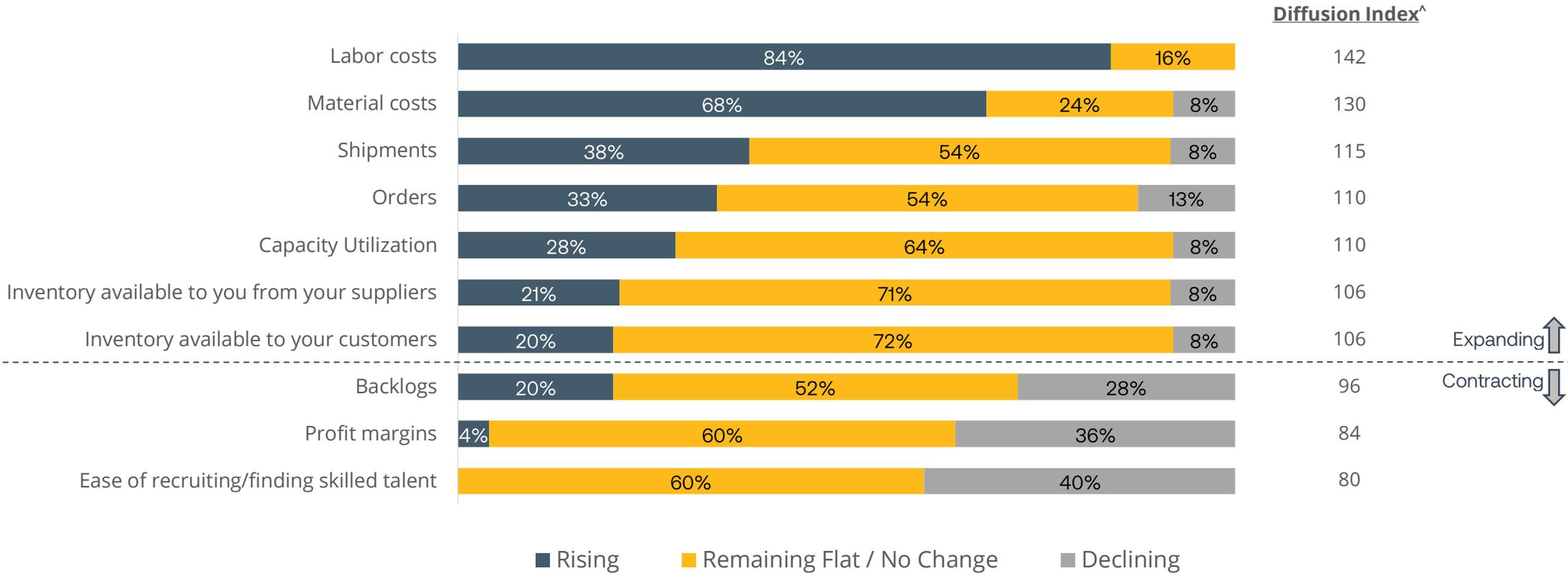


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The View From Companies Primarily Operating in Europe



Current Direction of Key Business Indicators -- Primary Region: Europe --



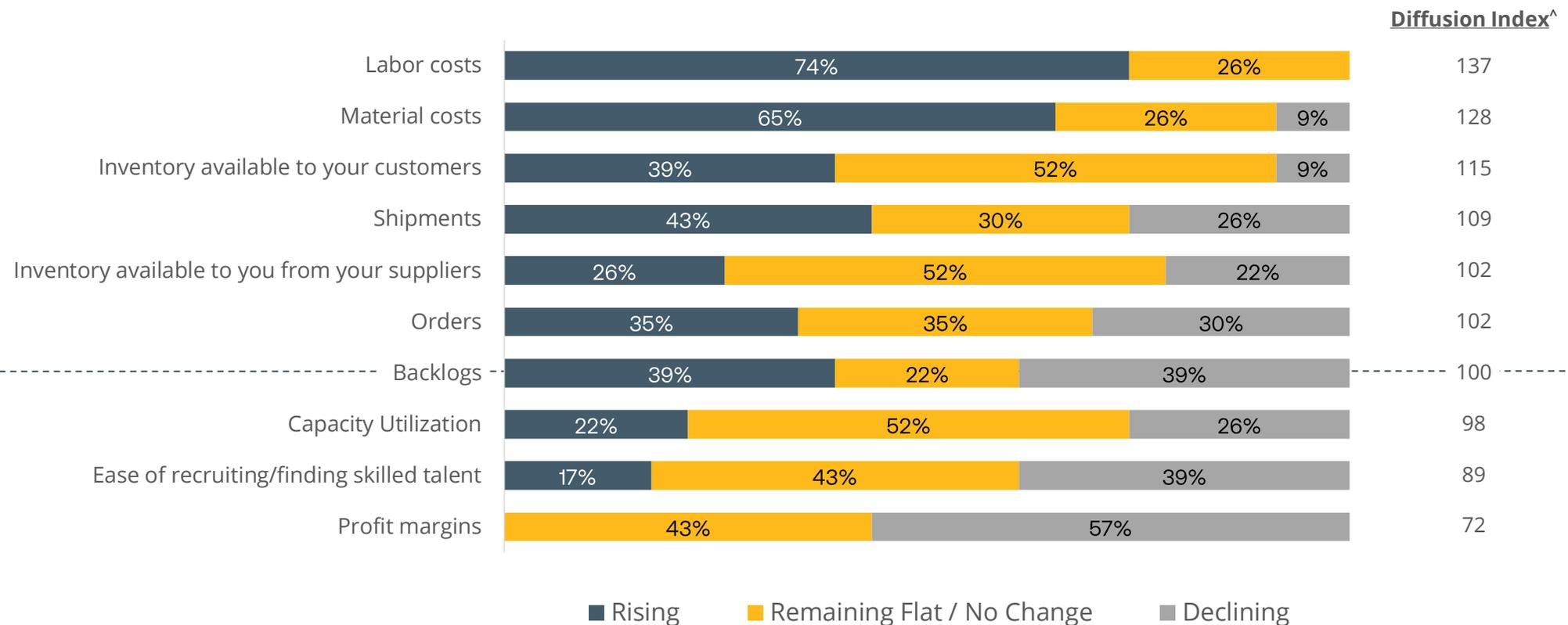
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The View From Companies Primarily Operating in APAC



Current Direction of Key Business Indicators

-- Primary Region: APAC --



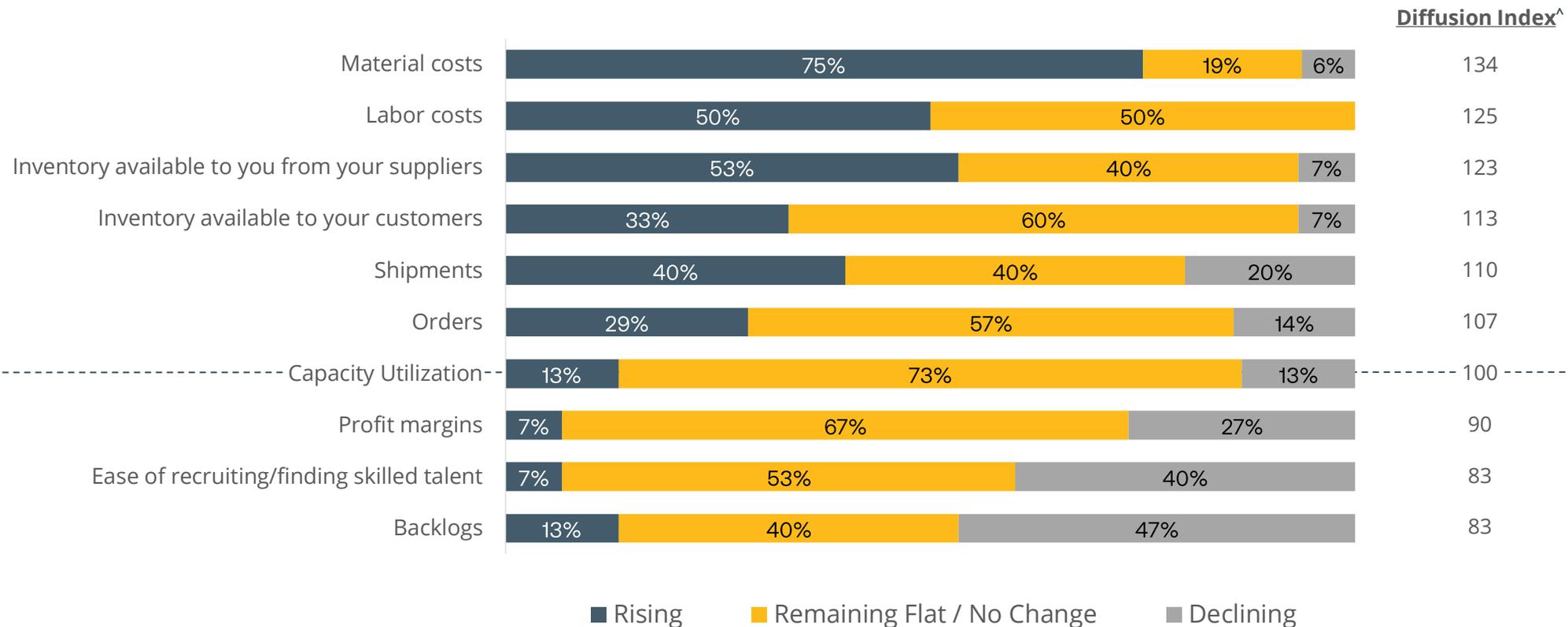
[^]A diffusion index is a statistical measure used to detect economic turning points.

The View From Companies Primarily Operating Globally



Current Direction of Key Business Indicators

-- Primary Region: Global --



Expanding ↑
Contracting ↓

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The Outlook for the Next 6 Months

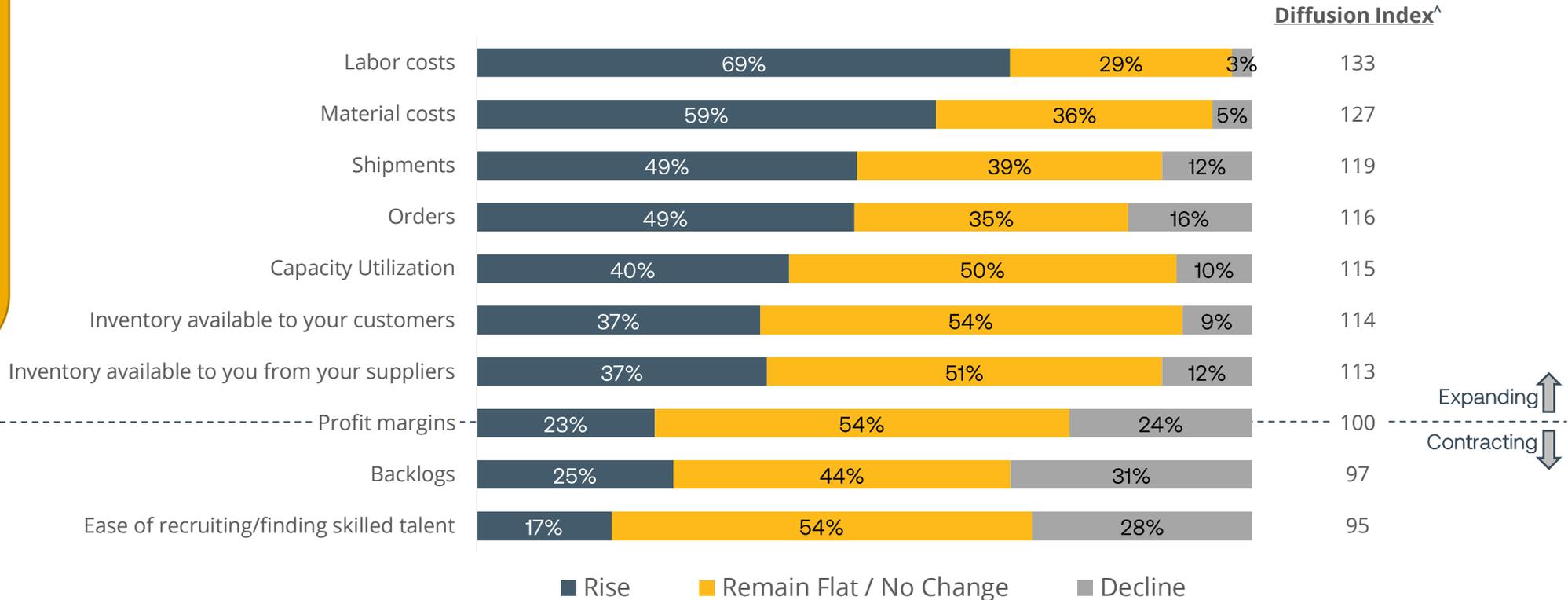


Over the next six months, manufacturers expect to see continued increase in both labor and material costs, although to a lesser extent, especially concerning material costs.

Positively, backlogs are expected to decline somewhat, while profit margins and ease of recruitment are likely to remain challenging.

Anticipated Direction of Key Business Indicators – Next Six Months

-- Total --



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Regional Differences in The Outlook



- **Over the next six months, shipments are expected to decline more so among firms operating in APAC and Globally when compared to those in both North America and Europe.**
 - 33% of APAC firms and 27% of those operating Globally expect shipments to decline over the next six months, which compares to 8% of North American and 0% of European manufacturers, who instead are more likely expecting shipments to remain stable (58%).
- **Profit margins are expected to decline at a significantly higher rate in APAC vs. North America.**
 - Two-fifths (42%) of manufacturers in APAC anticipate profit margins to decline, while only 15% of North American manufacturers are expecting the same.
- **In addition, manufacturers in APAC anticipate backlogs to decline more so than do North American manufacturers.**
 - Half (50%) of manufacturers in APAC are expecting backlogs to decline over the next six months, which compares to 22% reported by North American manufacturers.

Regional Differences in The Outlook (cont.)



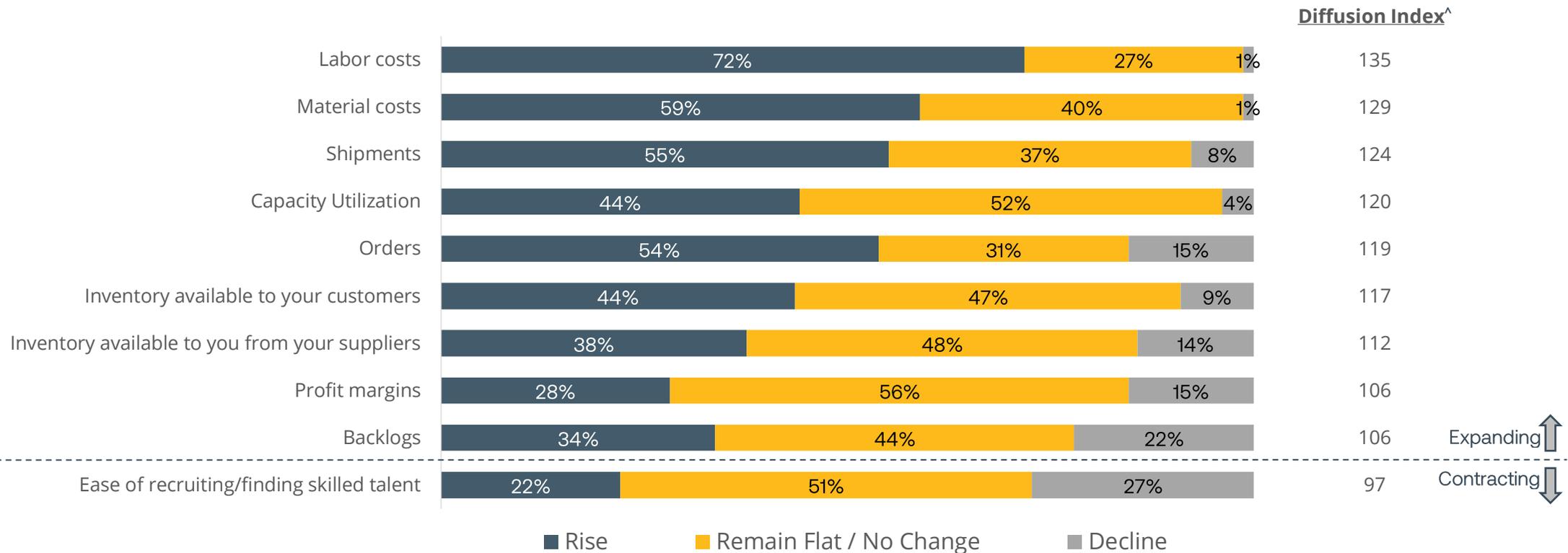
- **Among firms operating in APAC and Globally, material costs are expected to decline more so when compared to those primarily operating in North America.**
 - 13% of APAC manufacturers and 19% of those operating Globally expect material costs to decline over the next six months, which compares to only 1% of North American manufacturers.
- **At the same time, firms operating in North America and Europe are more likely expecting a reduction in labor costs vs. Global manufacturers.**
 - 72% of North American and 80% of European manufacturers expect labor costs to decline over the next six months vs. a significantly lower 31% among Global manufacturers.
- **Over the next six months, manufacturers in APAC anticipate capacity utilization to decline more so vs. North American manufacturers.**
 - A fourth (26%) of manufacturers in APAC are expecting capacity utilization to decline in the next six months, which compares to 4% reported by North American manufacturers.

The View From Companies Primarily Operating in North America



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: North America --



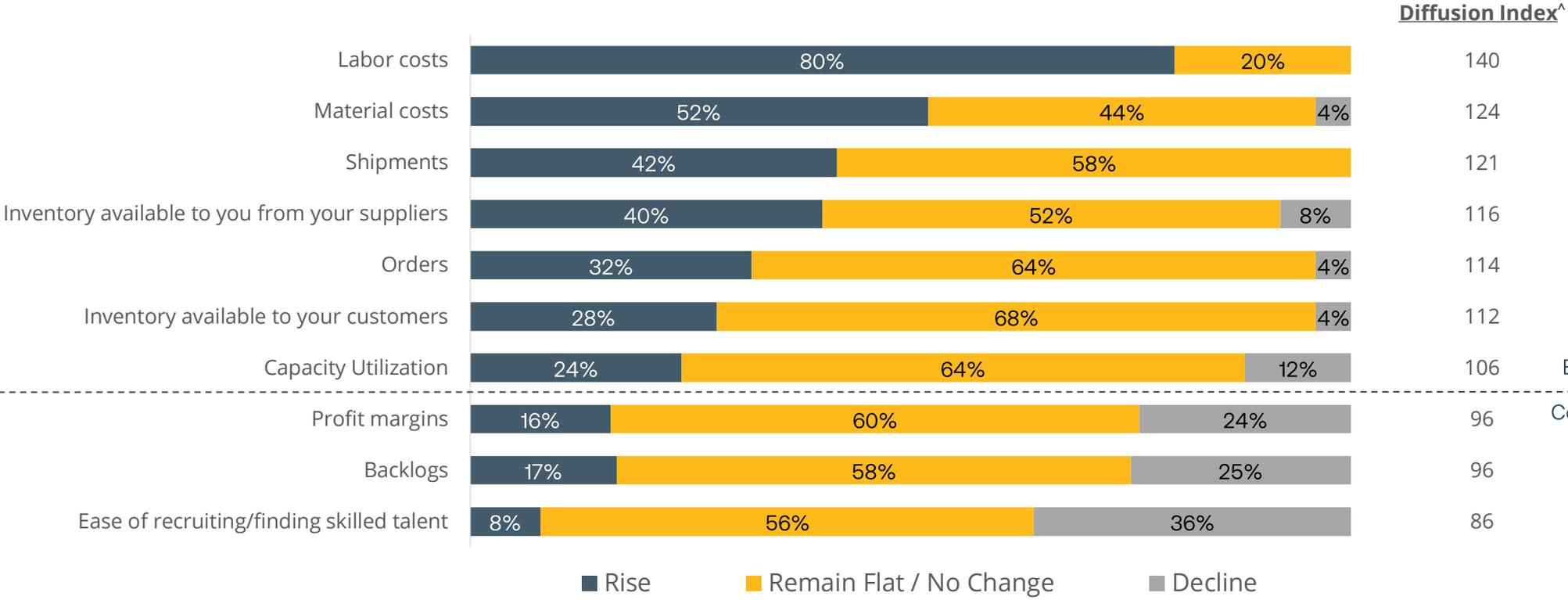
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The View From Companies Primarily Operating in Europe



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: Europe --



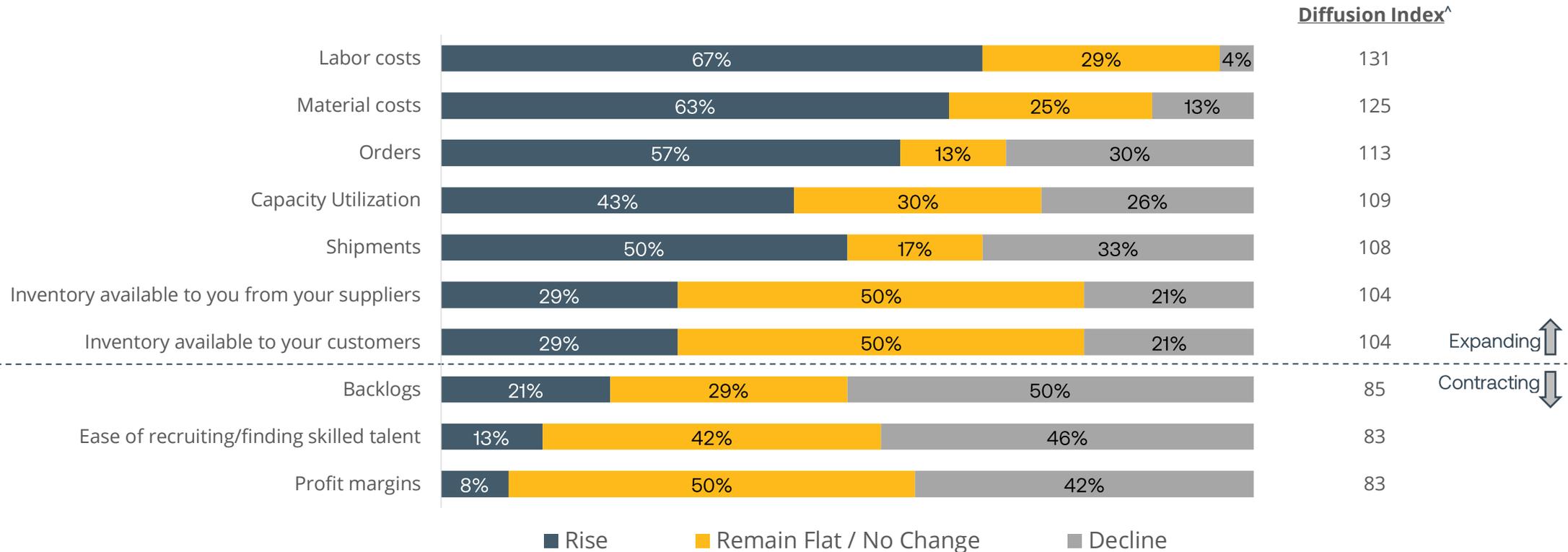
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The View From Companies Primarily Operating in APAC



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: APAC --



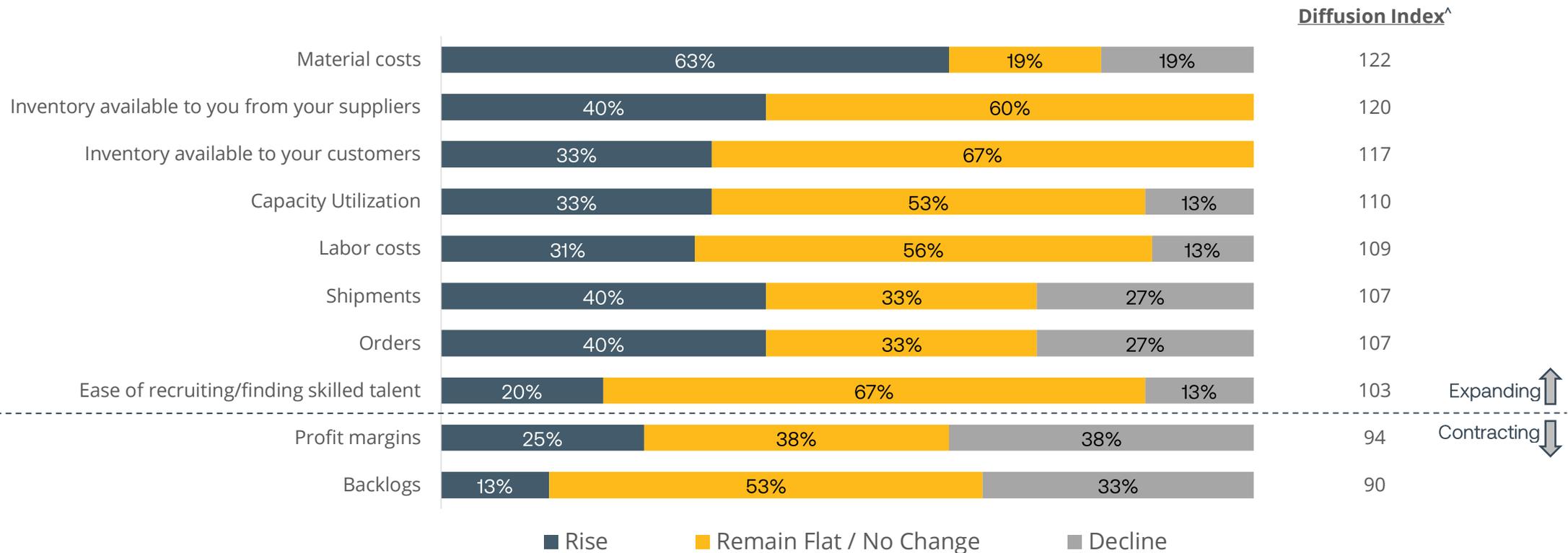
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The View From Companies Primarily Operating Globally



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: Global --



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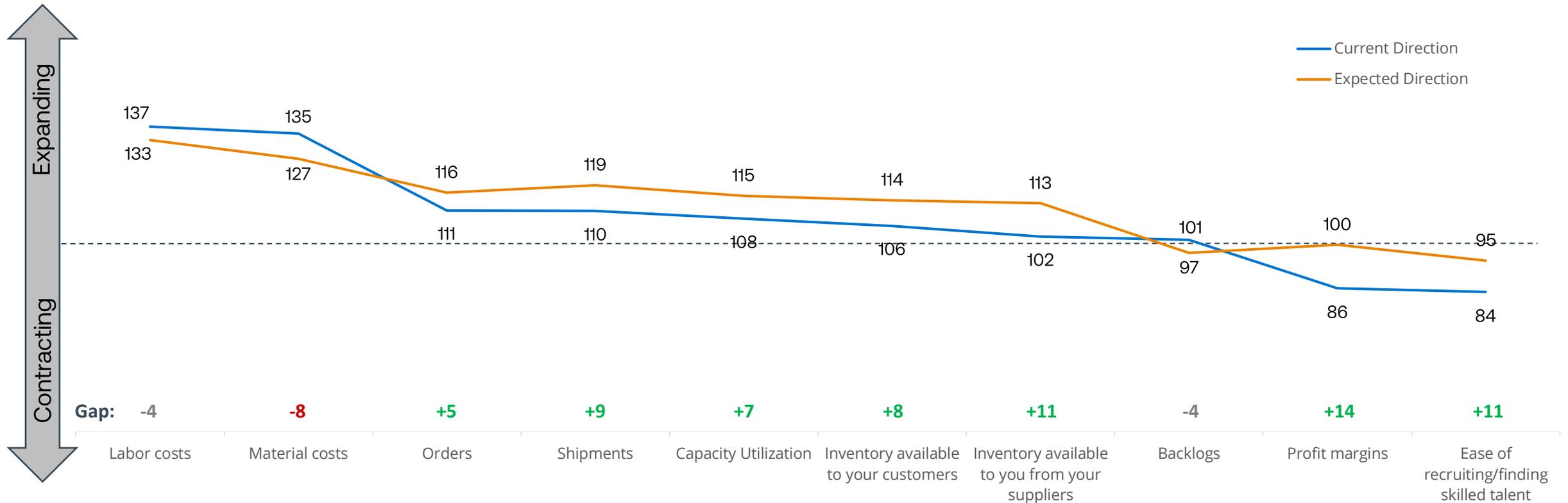
Labor Costs and Backlogs are Expected to Remain Relatively Stable Over the Next Six Months



Manufacturers anticipate material costs will decline, while expecting profit margins, inventories, ease of recruitment, shipments, capacity utilization, and orders to rise.

Direction of Key Business Indicators – Diffusion Index[^]

-- Total --



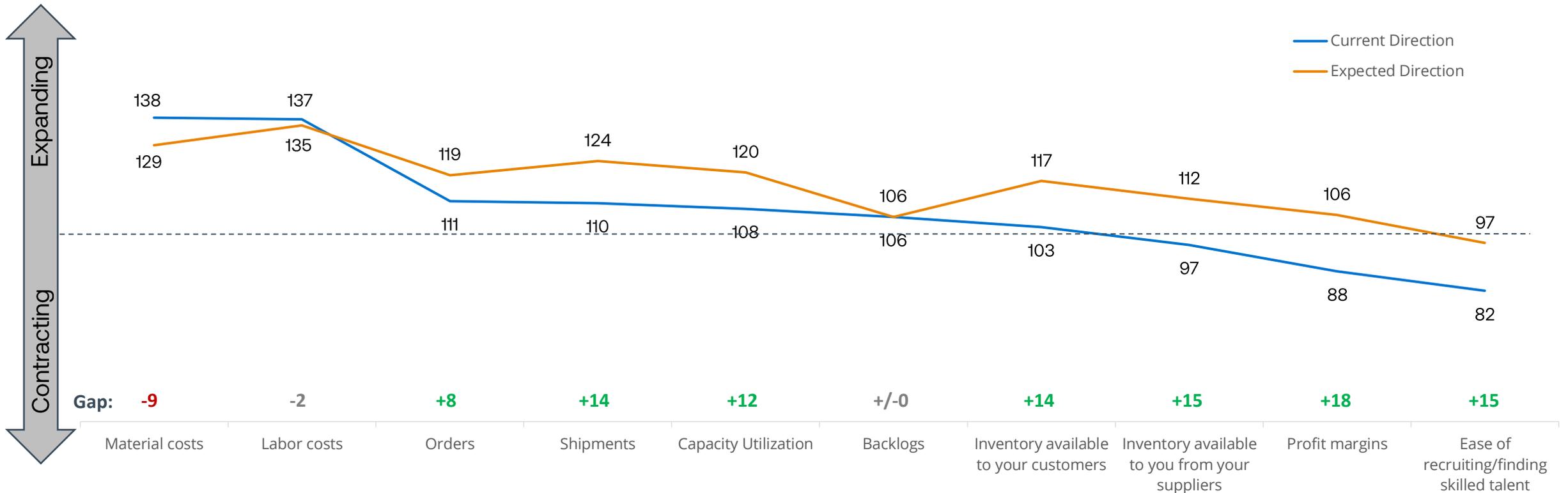
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The View From Companies Primarily Operating in North America



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: North America --



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The View From Companies Primarily Operating in Europe



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: Europe --

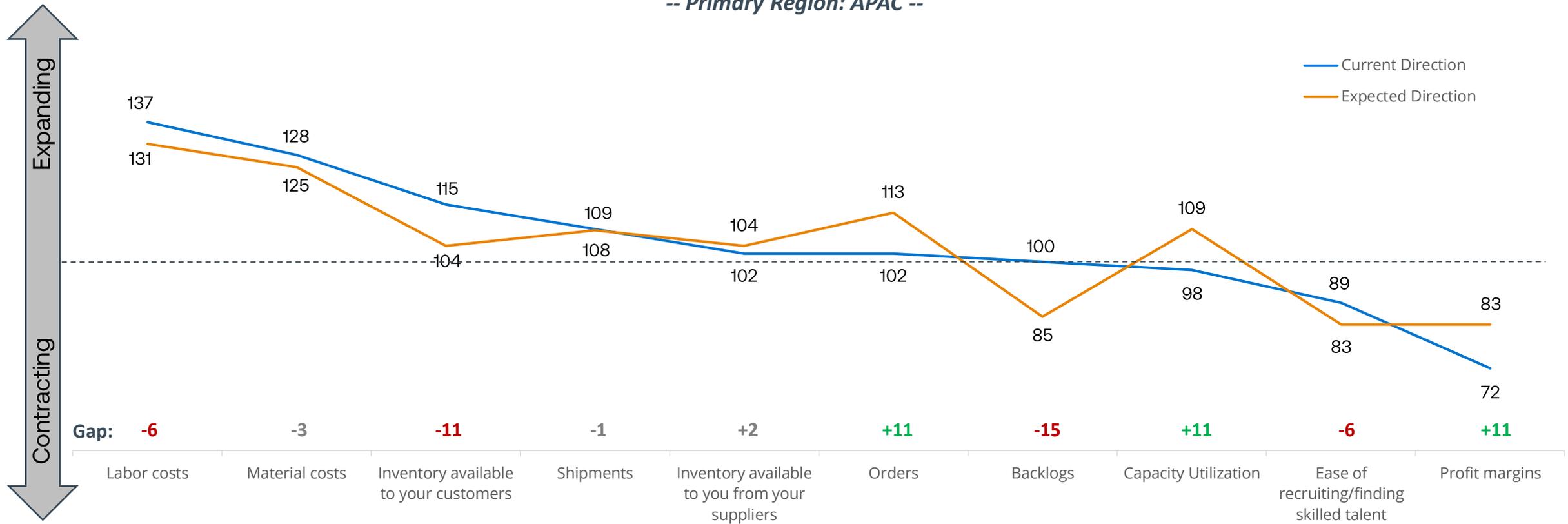


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The View From Companies Primarily Operating in APAC



Direction of Key Business Indicators – Diffusion Index[^]
 -- Primary Region: APAC --



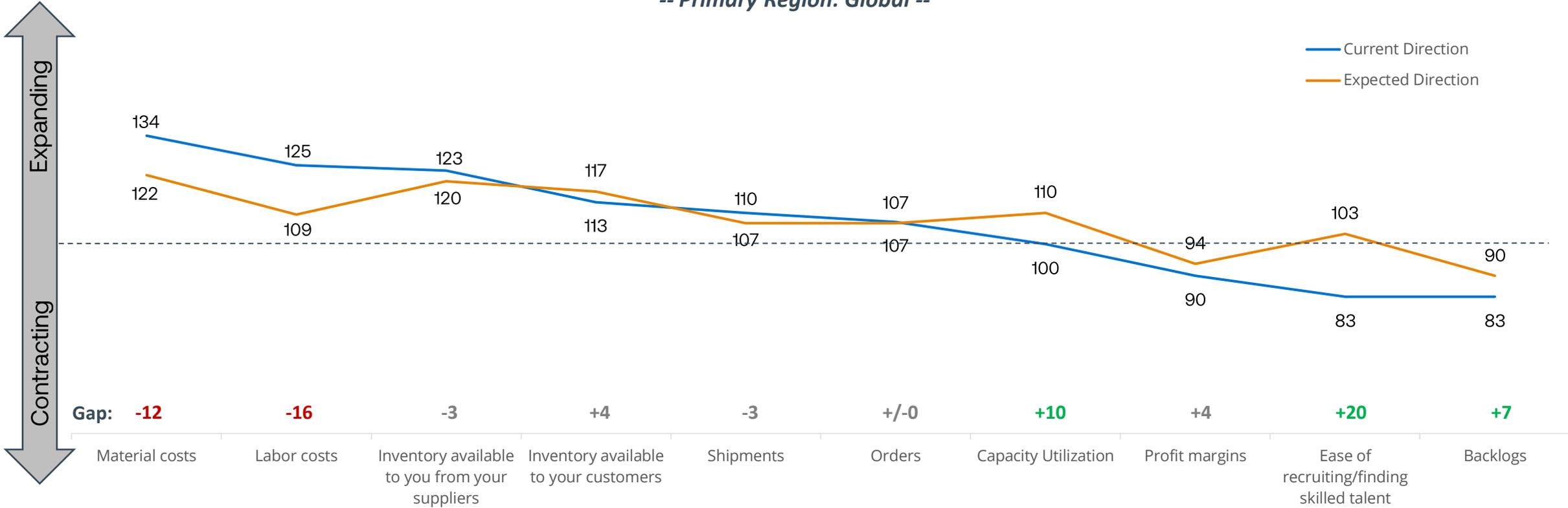
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The View From Companies Primarily Operating Globally



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: Global --



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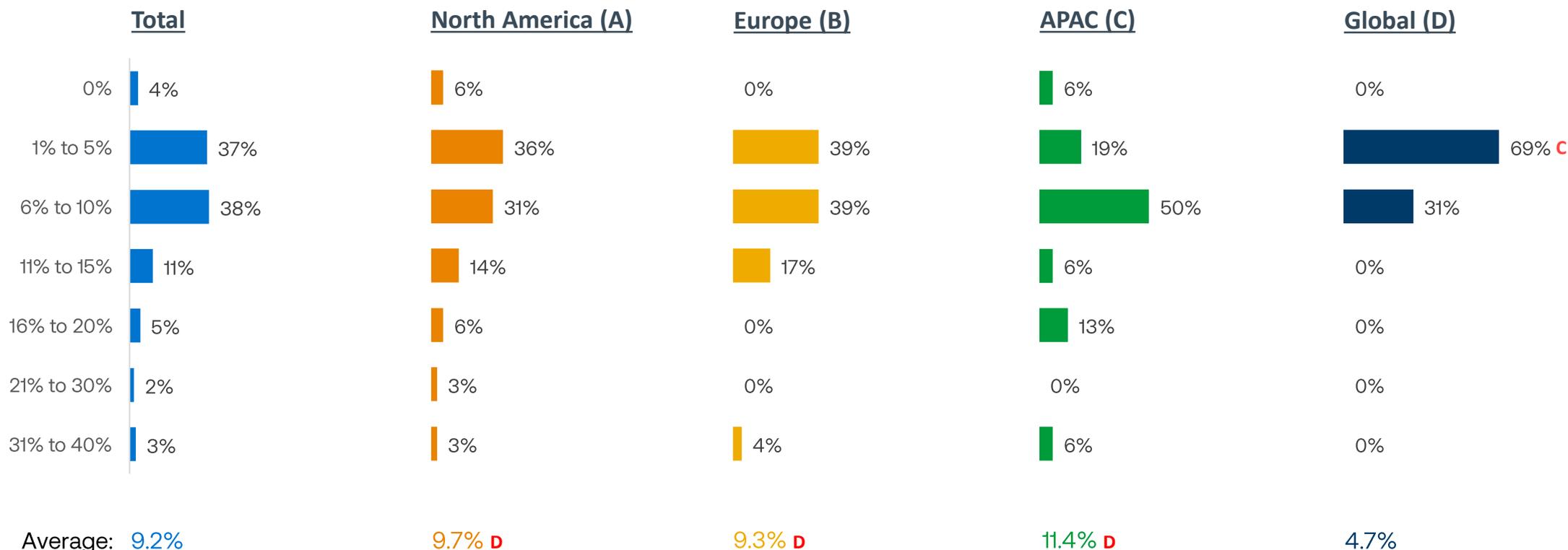
February 2023 Special Questions

On Average, Manufacturers Anticipate 2023 Labor Costs to Increase 9.2% Over 2022



Notably, manufacturers that operate Globally are expecting a significantly lower average increase of 4.7% YOY.

Anticipated Change in Labor Costs: 2023 vs. 2022



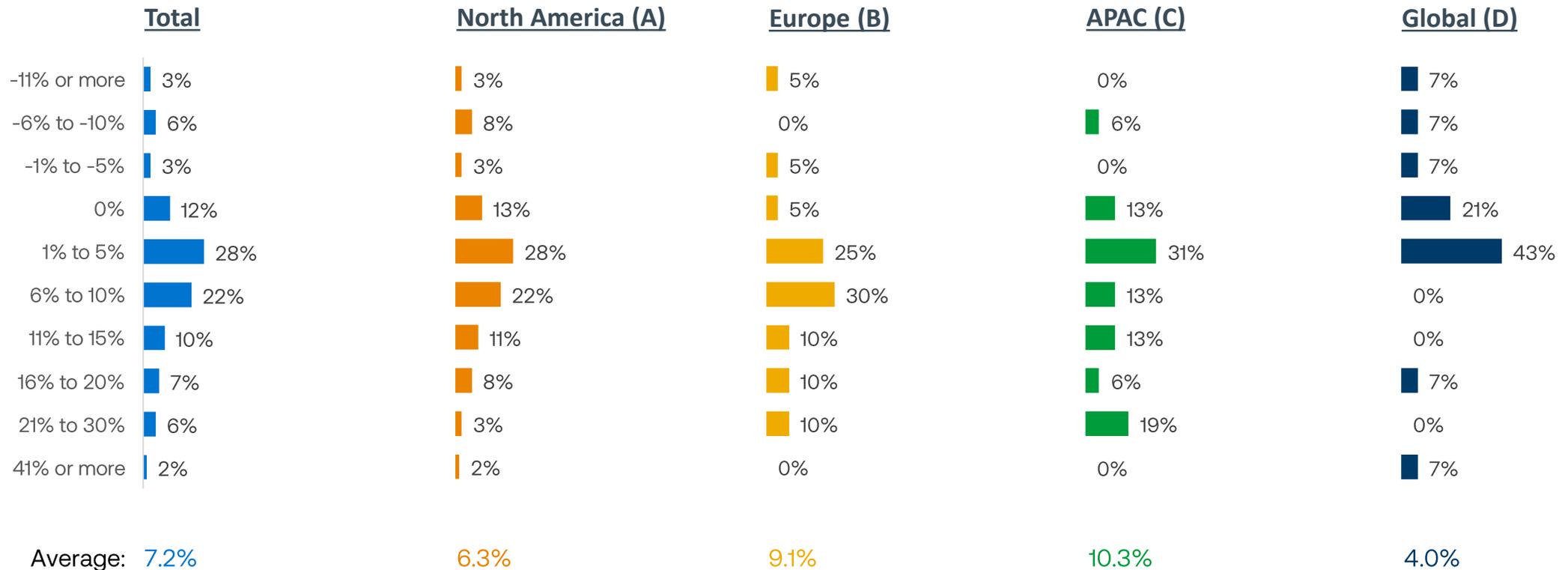
A/B/C/D Statistically significant at 90% confidence interval

When it Comes to Freight Costs, Manufacturers are Expecting an Average Increase of 7.2% YOY



While there is some variation in anticipated change in freight costs across regions, the differences are not significant.

Anticipated Change in Freight Costs: 2023 vs. 2022



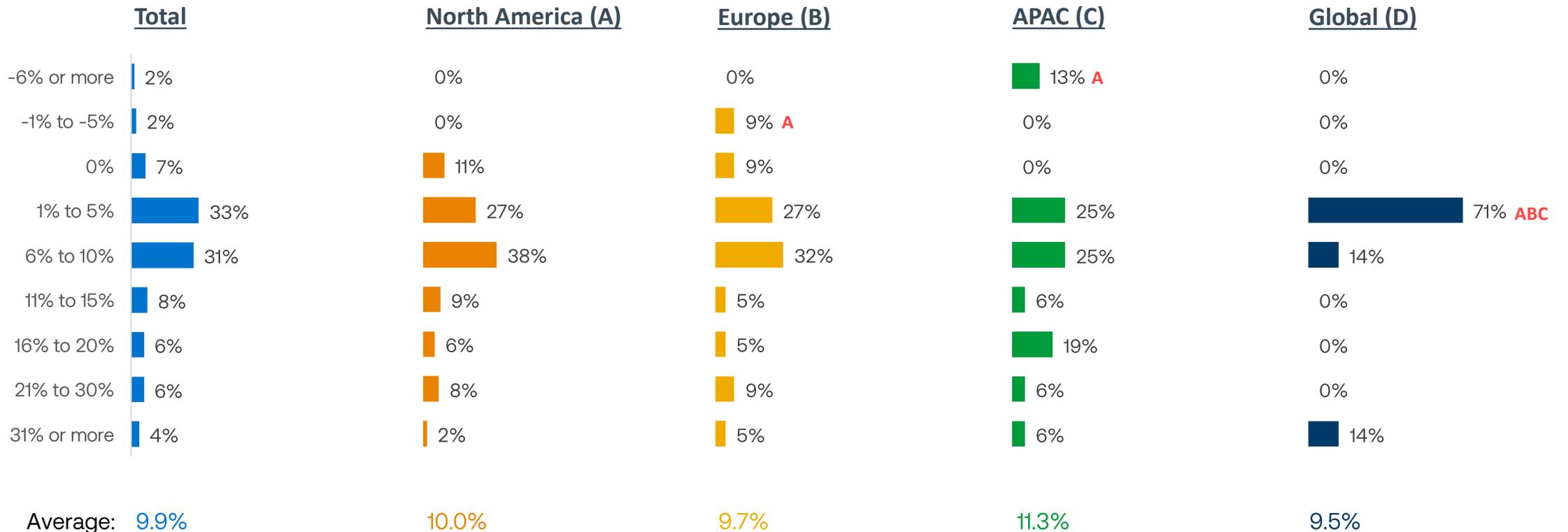
A/B/C/D Statistically significant at 90% confidence interval

On Average, Manufacturers Anticipate 2023 Material Costs to Increase 9.9% Over 2022



Notably, Global manufacturers are more likely expecting material costs to increase between 1% and 5% when compared to all other regions, while manufacturers in both Europe and APAC are more likely expecting a decrease in material costs when compared to those in North America.

Anticipated Change in Material Costs: 2023 vs. 2022



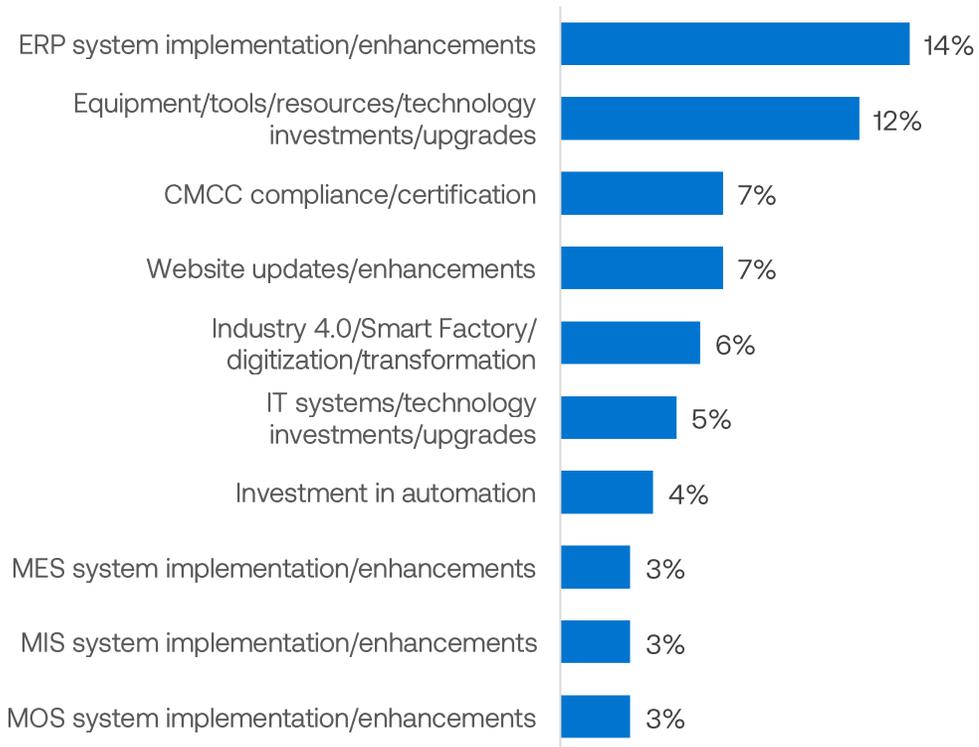
A/B/C/D Statistically significant at 90% confidence interval

Top Digital Projects/Initiatives for 2023 Include ERP System Implementation/Enhancements, Along With Investments in Equipment, Tools, Resources, and Technology



Biggest Digital Projects/Initiatives for 2023

Open End Responses
-- Mentions of 3% or More --



Open End Responses
-- Sample Verbatims --

“Implementing a new ERP system.” (North America, EMS)

“Refining ERP, expand tools for analysis.” (North America, EMS)

“We are upgrading our ERP system to the newest version which is 2 levels above where we are at currently. We are also updating all desktops to laptops for anyone able to work remotely.” (North America, WHMA)

“Capital Investment in plant and equipment.” (Global, OEM)

“Upgrading equipment and technology.” (North America, PCB)

“CMMC certification.” (North America, Equipment Supplier)

“CRM Integration and Website Updates.” (North America, WHMA)

“Manufacturing transformation to SMART Factory.” (APAC, EMS)

“Process automation.” (APAC, WHMA)

“Integration of MES system with smart storage and X-Ray counter. More robust reporting mechanisms and metrics gathering. Creation of online training programs for employees.” (North America, EMS)

“Real-time monitoring of ERP and MES data.” (North America, OEM)

Appendix

Current Conditions Diffusion Indices

Past 12 Month Comparisons (TOTAL)



	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022	August 2022	September 2022	October 2022	November 2022	December 2022	January 2023	February 2023
Material costs	143	142	146	145	146	144	142	139	141	139	138	136	135
Labor costs	138	138	134	138	137	139	138	136	136	139	136	136	137
Orders	120	124	121	119	118	115	112	109	112	109	107	112	111
Backlogs	122	119	114	120	119	114	111	107	110	108	105	99	101
Shipments	112	115	115	114	114	111	110	112	111	106	109	112	110
Capacity utilization	111	113	114	110	104	107	110	109	110	107	105	111	108
Profit margins	82	86	85	89	85	84	86	86	89	87	90	89	86
Inventory available to your customers	88	109	94	94	91	96	102	106	101	102	105	111	106
Ease of recruiting/finding skilled talent	80	78	79	81	79	80	85	85	84	84	88	87	84
Inventory available to you from your suppliers	78	78	83	79	82	86	94	96	99	98	102	104	102

Δ+5 points or more vs. previous month

Δ-5 points or more vs. previous month

Outlook Diffusion Indices

Past 12 Month Comparisons (TOTAL)



	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022	August 2022	September 2022	October 2022	November 2022	December 2022	January 2023	February 2023
Material costs	142	139	140	138	140	138	136	131	134	131	131	130	127
Labor costs	137	136	135	134	135	139	136	134	136	135	133	135	133
Orders	121	123	121	122	119	120	117	113	108	110	113	116	116
Backlogs	113	110	109	114	112	103	104	99	100	100	99	100	97
Shipments	119	121	117	119	115	120	117	116	114	112	112	120	119
Capacity utilization	118	116	116	116	112	115	114	117	112	111	111	118	115
Profit margins	94	97	94	97	90	92	95	93	95	94	98	97	100
Inventory available to your customers	99	103	101	100	102	105	107	111	114	106	109	117	114
Ease of recruiting/finding skilled talent	87	86	88	86	90	88	88	92	86	90	93	95	95
Inventory available to you from your suppliers	93	94	93	92	92	102	104	107	108	110	108	113	113

Δ+5 points or more vs. previous month

Δ-5 points or more vs. previous month

- > Each month, IPC surveys executives in the electronics manufacturing sector across the globe with the goal of assessing the current state of the industry.
- > The results contained herein are based upon the findings of IPC's The Current State of Electronics Manufacturing Survey, which was fielded between the dates of January 11 and January 31, 2023.



Questions? Please contact:

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