



BUILD ELECTRONICS BETTER

The Current Sentiment of the Global Electronics Manufacturing Supply Chain

Monitoring the Pulse of the Global Electronics Industry

January 2022

[ipc.org](https://www.ipc.org) →

Executive Summary



- > Sentiment of the Global Electronics Manufacturing Supply Chain is little changed this month. Material costs and labor costs continue to be the largest issues facing the electronics supply chain.
 - Nine in ten electronics manufacturers report rising material costs and now over three-fourths report rising labor costs.
 - The diffusion index for material costs remains extremely high at 145 and the index for labor costs has worsened to 137.
- > Order flow continues to be strong and the supply chain reports that both capacity utilization and shipments are expanding, but backlogs continues to grow and profit margins are shrinking.
- > Inventories remain weak.
 - Only 17% report inventories available to customers are improving and 58% report inventories available from suppliers are declining
- > The outlook for the next 6 months is comparable to last month. Manufacturers expect to see continued increase in material and labor costs. Ease of recruiting/finding skilled talent is expected to remain challenging, with persisting declines in inventories that are likely compressing profit margins.
- > This month we asked what the greatest impact of the semiconductor shortage was on business. A sample of these results are on page 21.
 - The electronics supply chain reports that semiconductor shortages are hindering production and profitability

Current Conditions for the Electronics Supply Chain Remain Challenging

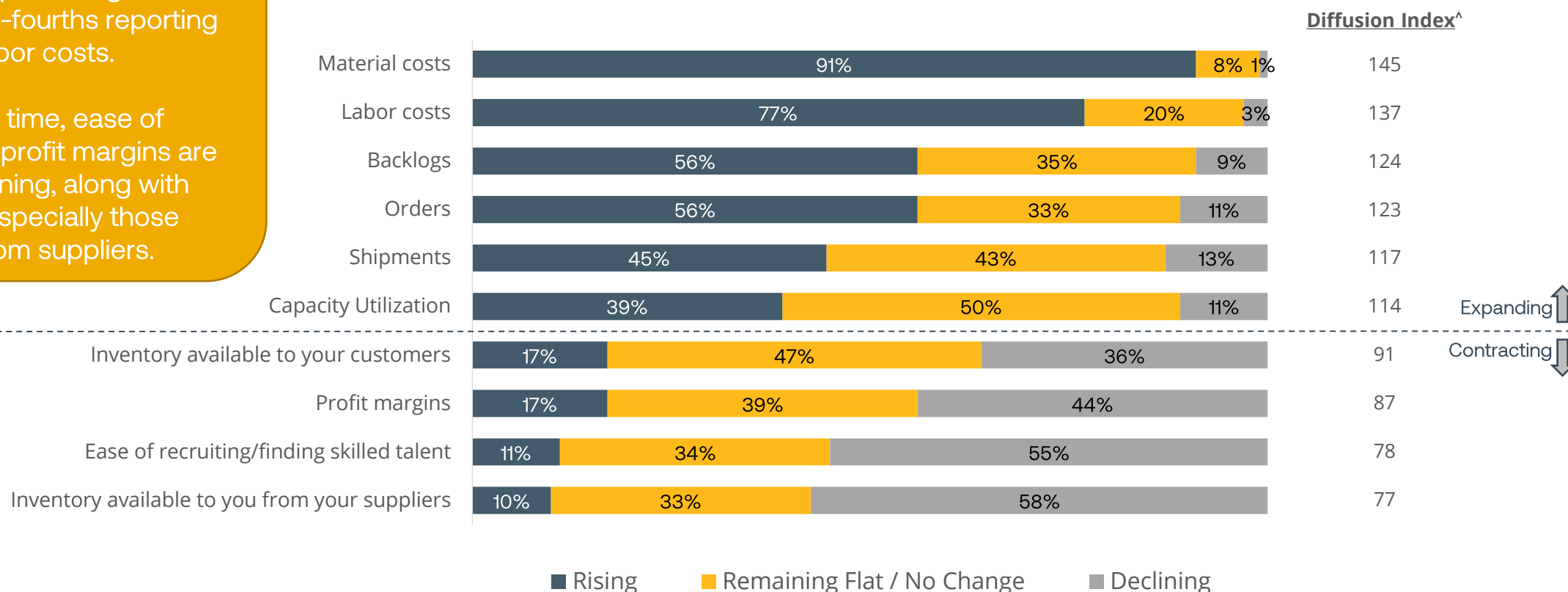


Nine in ten electronics manufacturers report rising material costs, with three-fourths reporting rising labor costs.

At the same time, ease of recruitment and profit margins are currently declining, along with inventories, especially those available from suppliers.

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



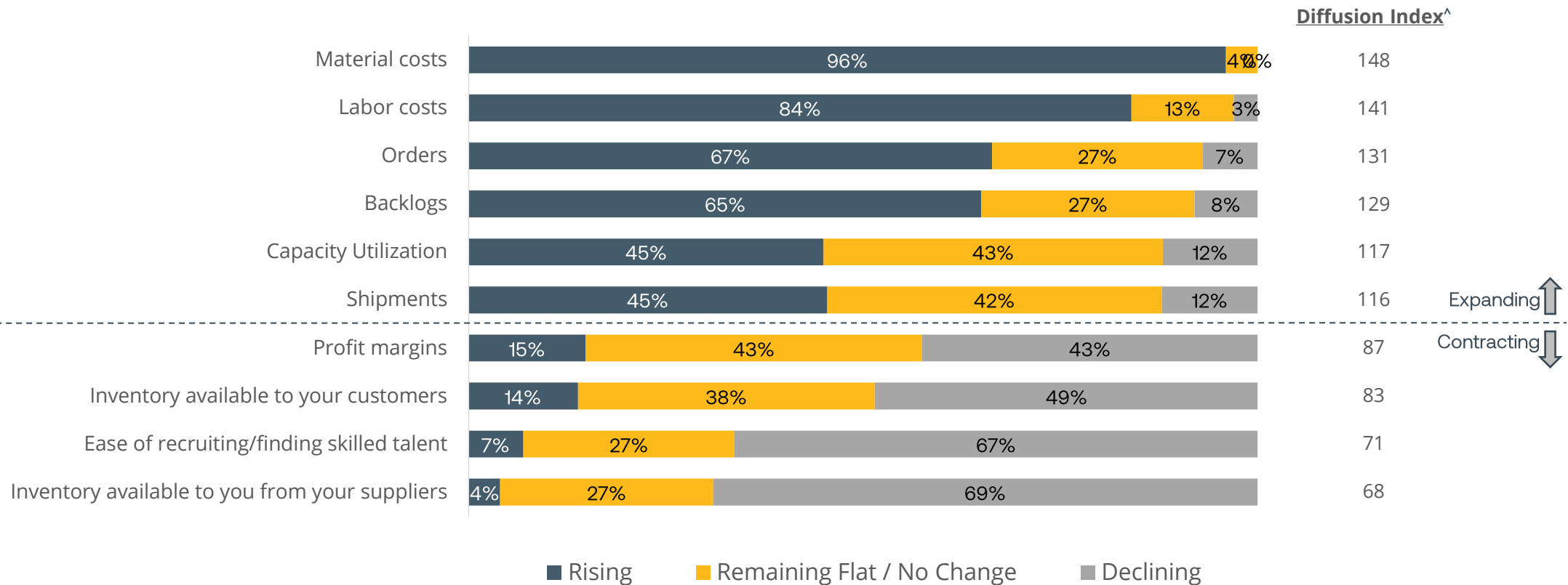
- **Material costs are currently rising at a higher rate in North America than APAC.**
 - While 96% of North American manufacturers report rising material costs, a significantly lower 74% report material costs are up in APAC.
- **Inventory available to customers is declining at a higher rate in North America compared to both Europe and APAC.**
 - 49% of firms in North America are reporting declining inventory available to customers, while only 21% of firms in Europe and 16% of firms in APAC are currently experiencing declines.

The View From Companies Primarily Operating in North America



Current Direction of Key Business Indicators

-- Primary Region: North America --

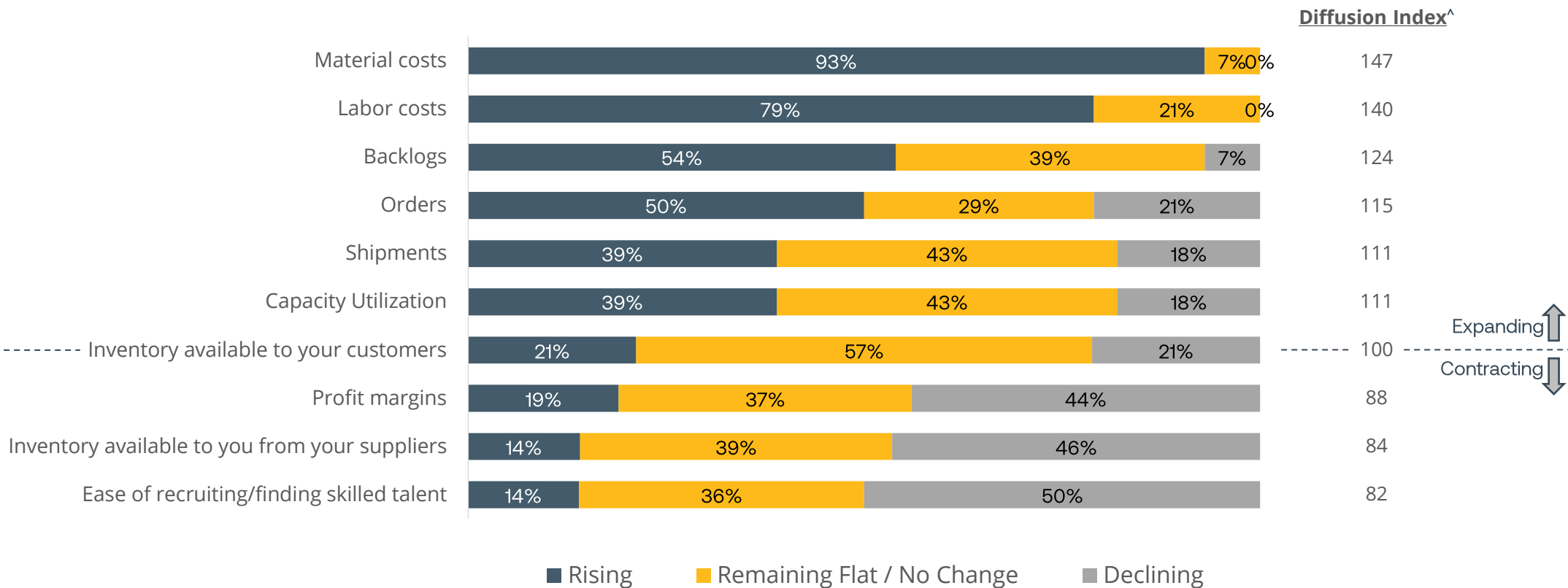


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The View From Companies Primarily Operating in Europe

Current Direction of Key Business Indicators

-- Primary Region: Europe --



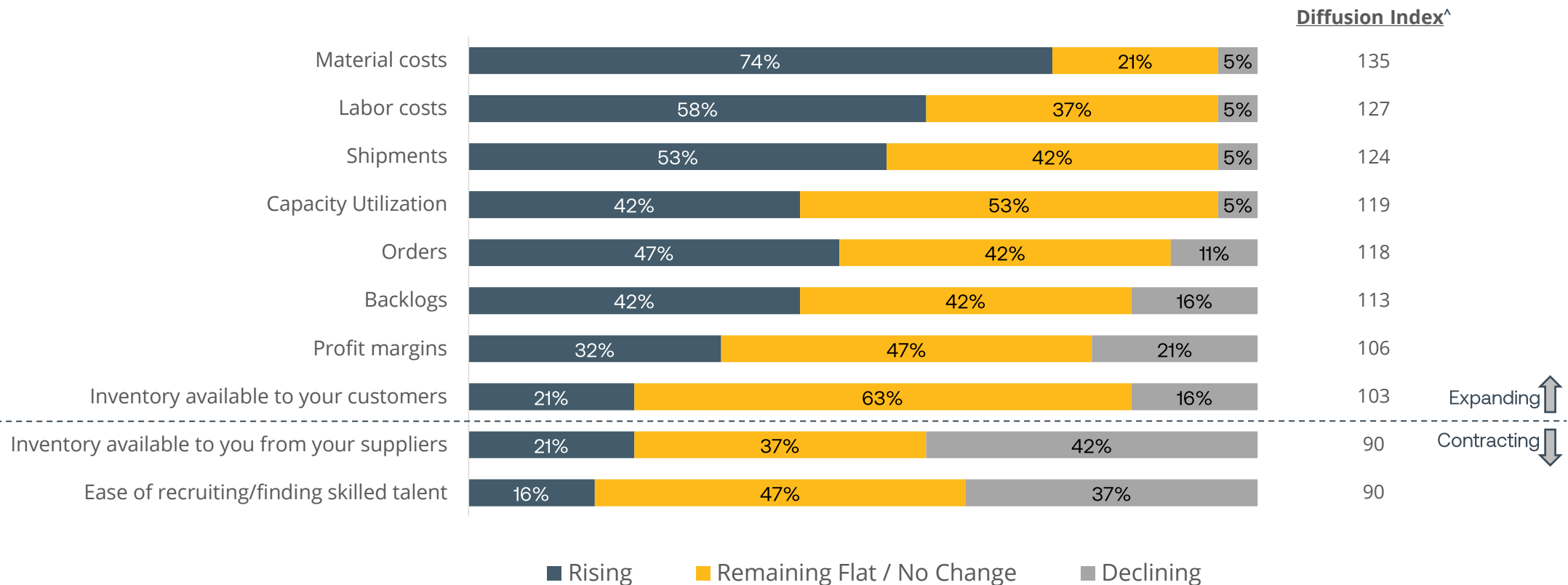
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The View From Companies Primarily Operating in APAC



Current Direction of Key Business Indicators

-- Primary Region: APAC --



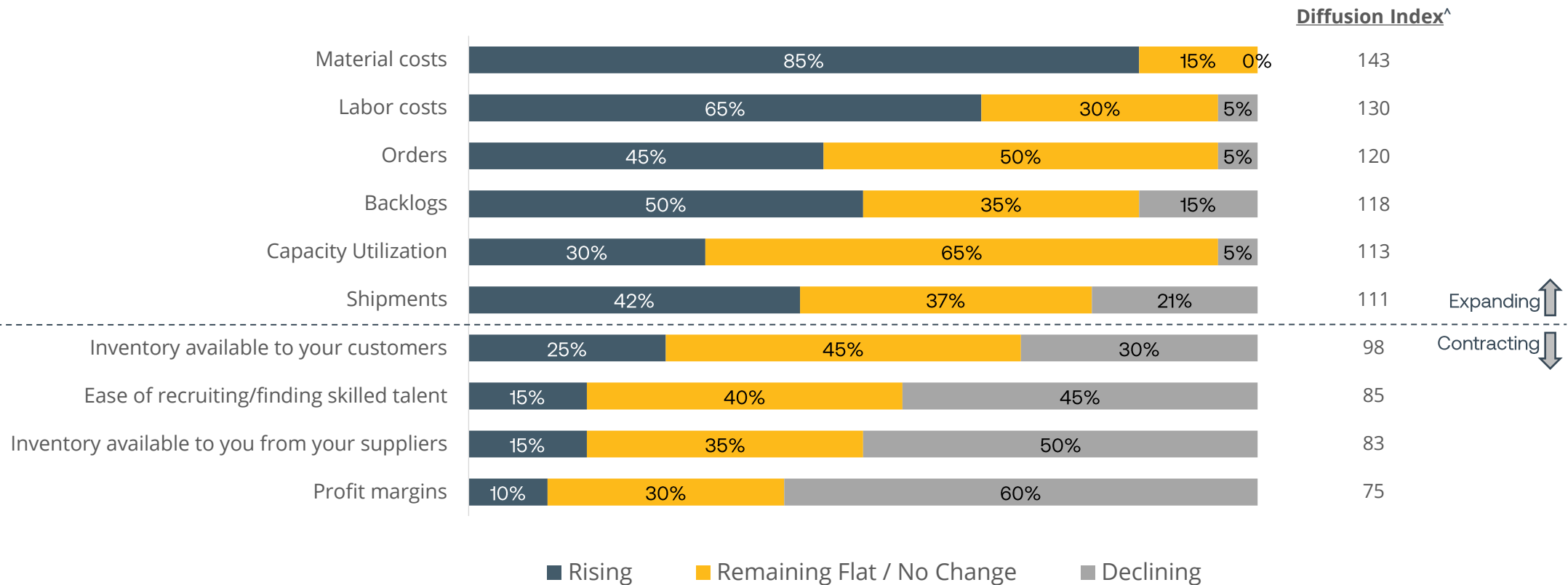
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The View From Companies Primarily Operating Globally



Current Direction of Key Business Indicators

-- Primary Region: Global --



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The Outlook for the Next 6 Months: Little Changed

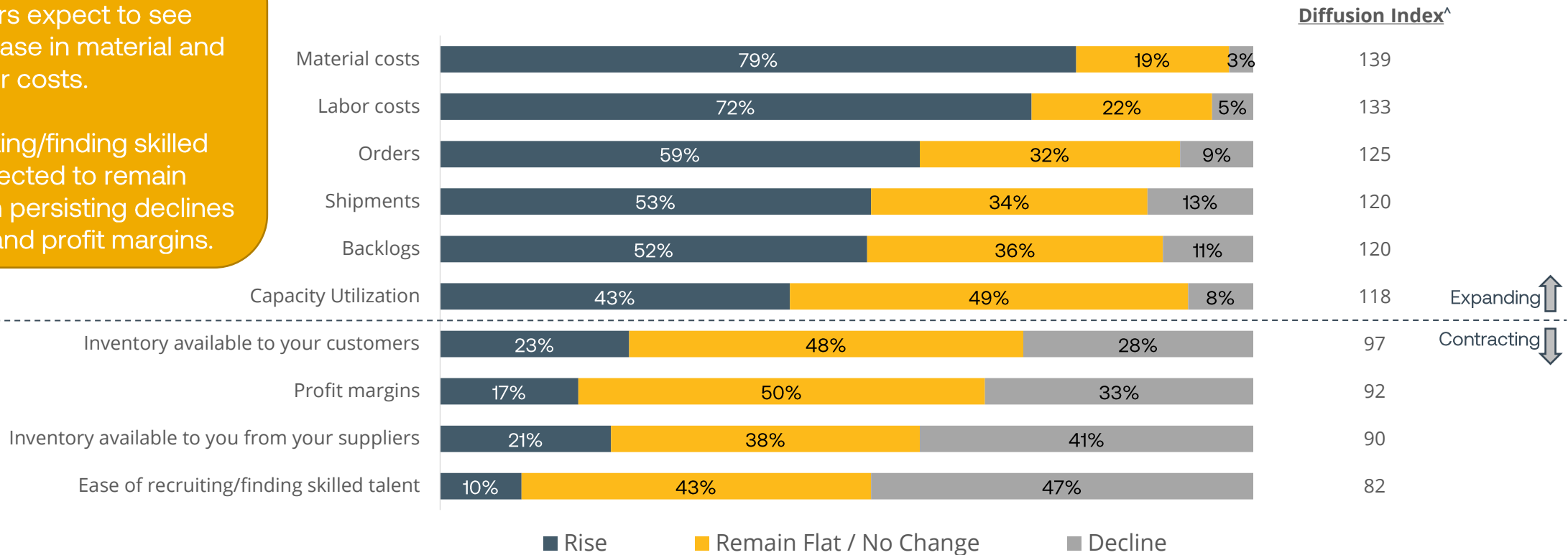


Anticipated Direction of Key Business Indicators – Next Six Months

-- Total --

Over the next six months, manufacturers expect to see continued increase in material and labor costs.

Ease of recruiting/finding skilled talent is expected to remain challenging, with persisting declines in inventories and profit margins.



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Regional Differences in the Outlook



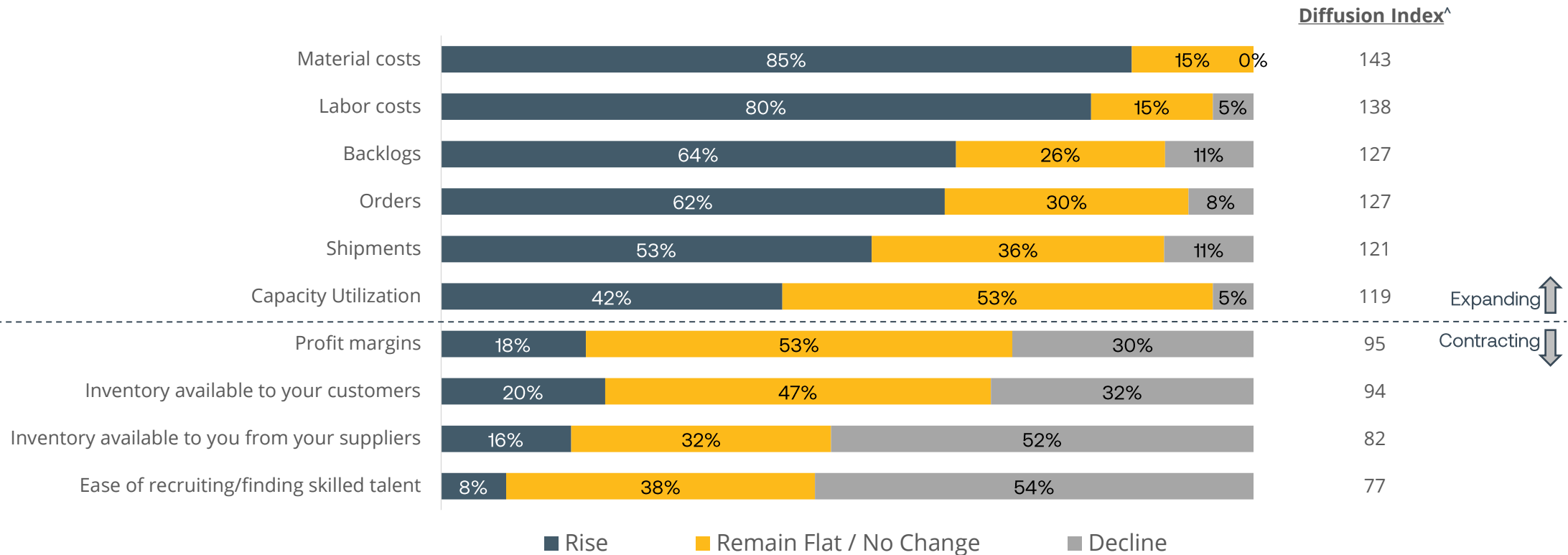
- **Expectations for declining profit margins are more pronounced among firms operating Globally.**
 - 60% of Global manufacturers expect profit margins to decline in the next six months, compared to a significantly lower 30% among firms in North America and 21% among those in APAC.
- **Manufacturers in APAC are more likely to expect material costs to decline in the coming months.**
 - 11% of APAC manufacturers expect material costs to decline in the first half of 2022, whereas no firms in North America are expecting declines.
- **APAC manufactures are more likely to anticipate inventory available from suppliers to remain stable in the next six months, while European manufactures are more likely to expect inventory available to customers to hold steady.**
 - 63% of manufactures in APAC believe inventory available from suppliers will stabilize in the next six months vs. 32% among North American manufacturers and 25% among Global manufacturers.
 - At the same time, 70% of European firms indicate inventory available to customers will stabilize in the next six months compared to only 25% of firms operating Globally.

The View From Companies Primarily Operating in North America



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: North America --



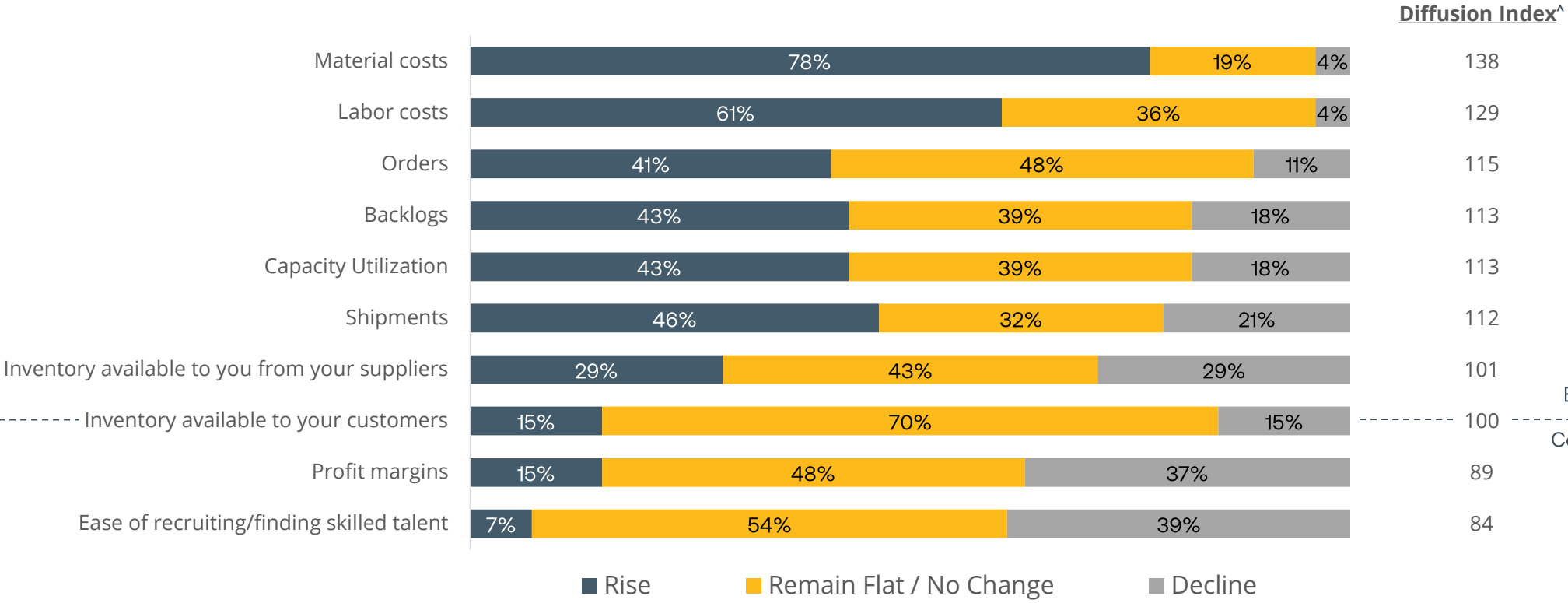
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The View From Companies Primarily Operating in Europe



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: Europe --



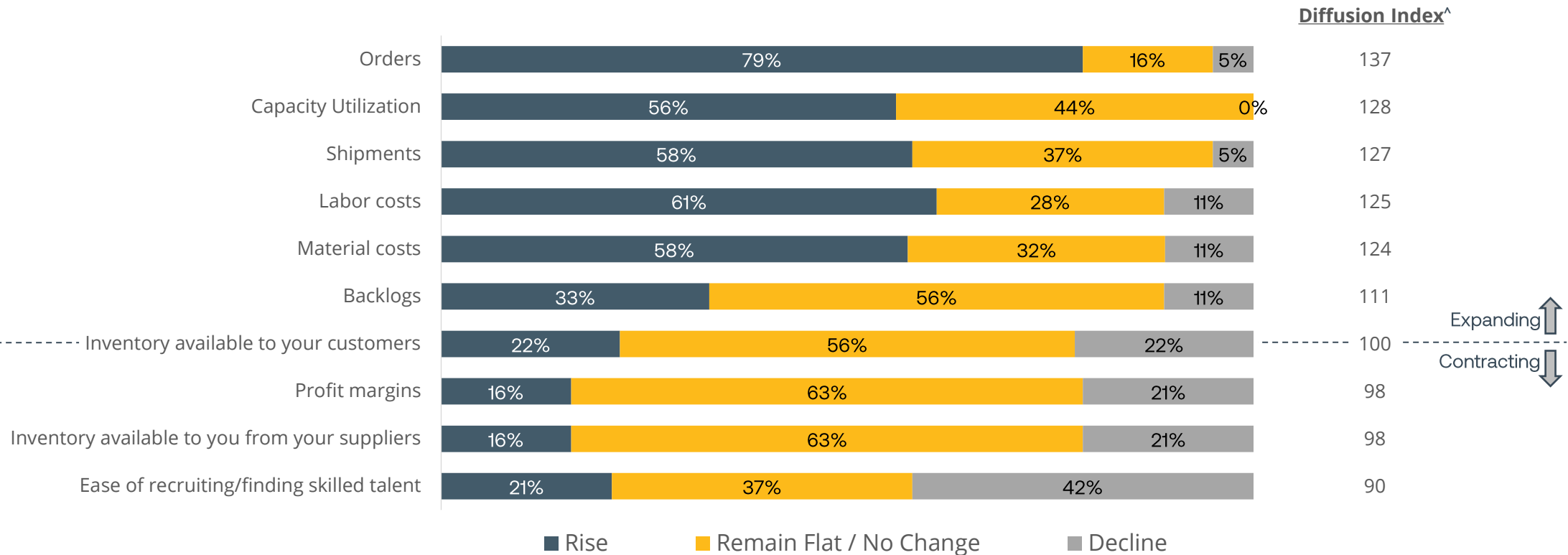
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The View From Companies Primarily Operating in APAC



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: APAC --



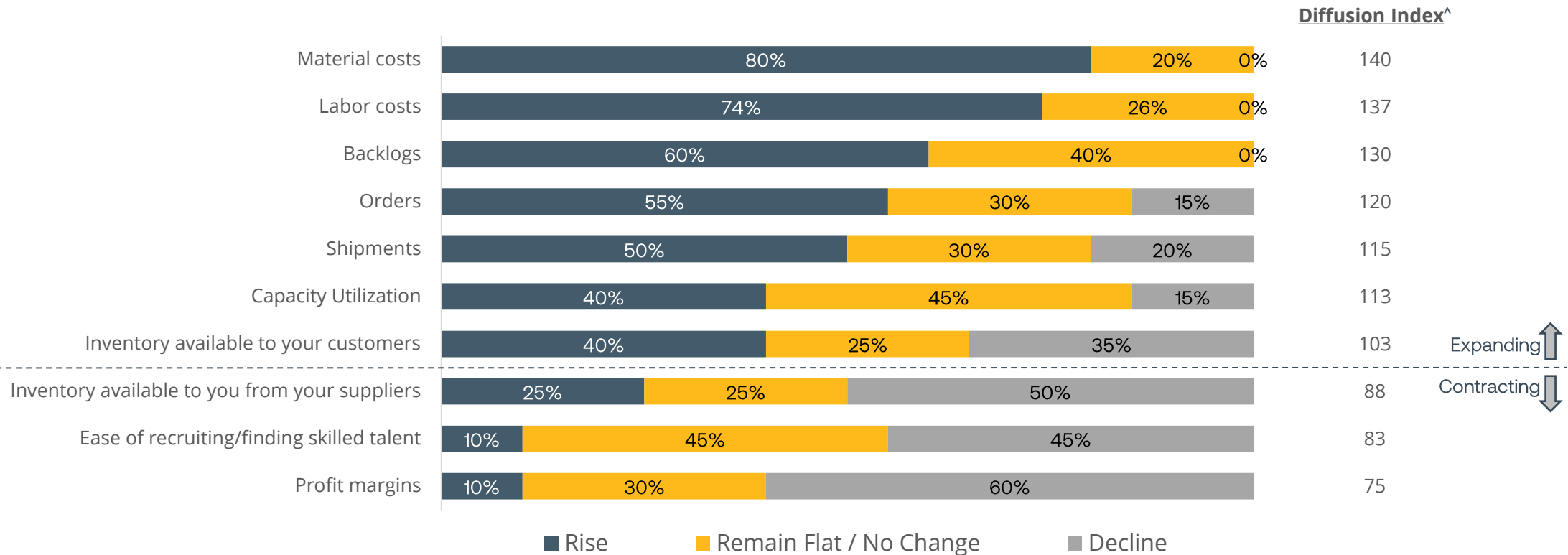
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The View From Companies Primarily Operating Globally



Anticipated Direction of Key Business Indicators – Next Six Months

-- Primary Region: Global --



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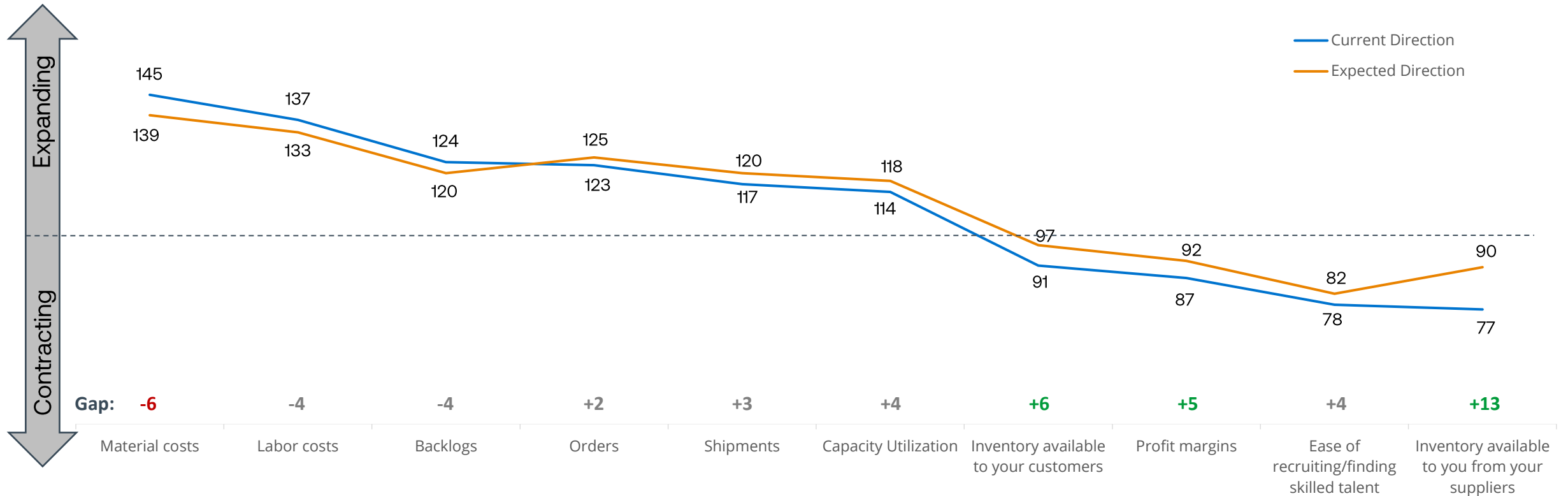
Labor Costs, Backlogs, Orders, Shipments, Capacity Utilization, and Ease of Recruitment Expected to Remain Relatively Stable



Manufacturers expect to see declines in material costs in the next six months, while inventories, especially those available from suppliers, and profit margins are expected to see some level of improvement.

Direction of Key Business Indicators – Diffusion Index[^]

-- Total --



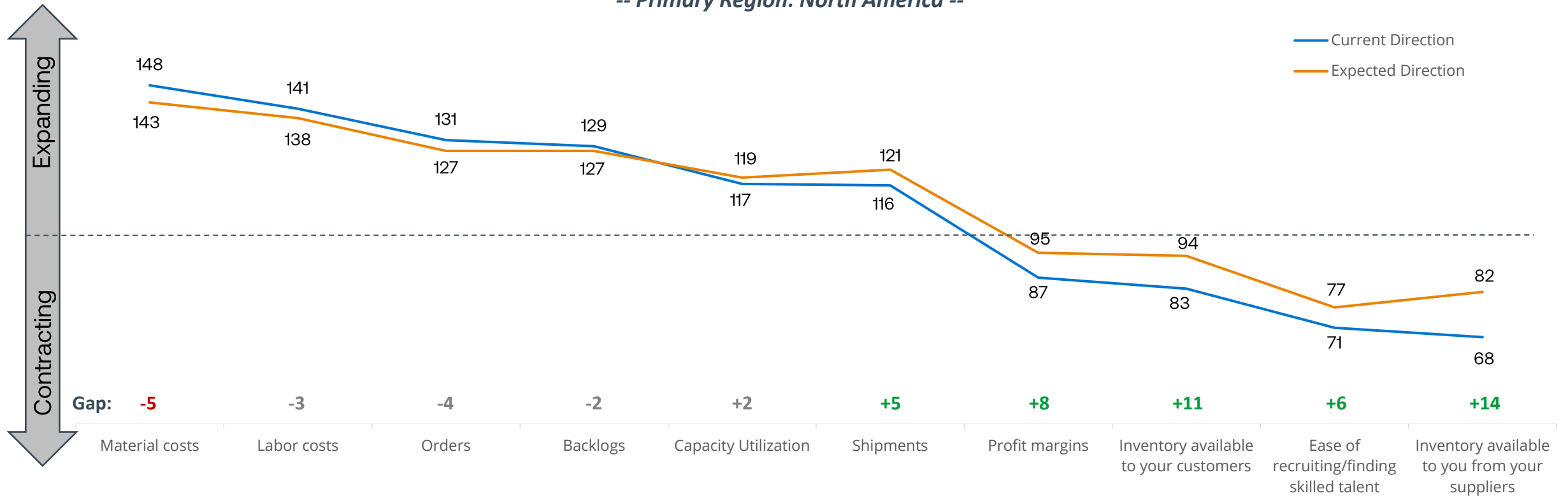
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The View From Companies Primarily Operating in North America



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: North America --



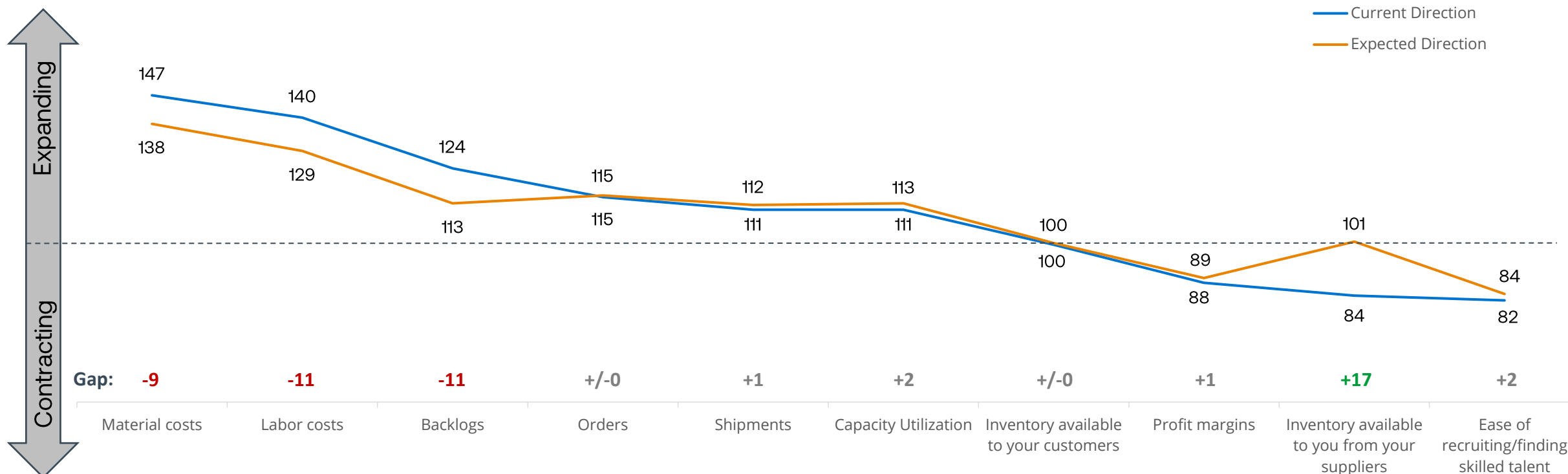
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The View From Companies Primarily Operating in Europe



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: Europe --



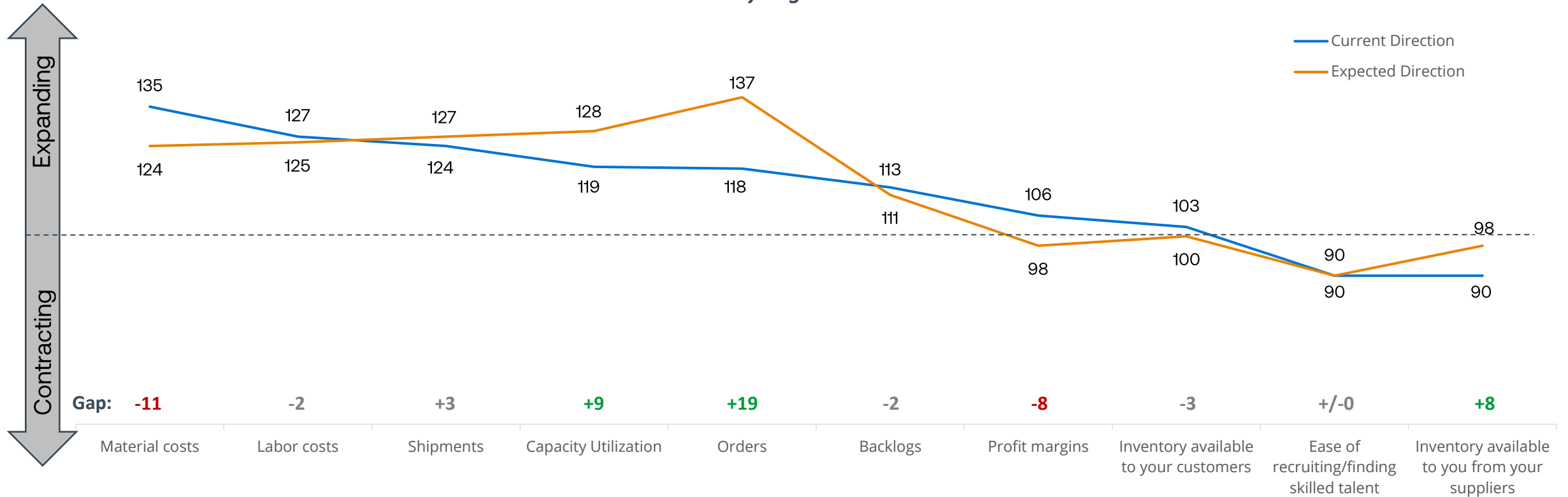
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The View From Companies Primarily Operating in APAC



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: APAC --



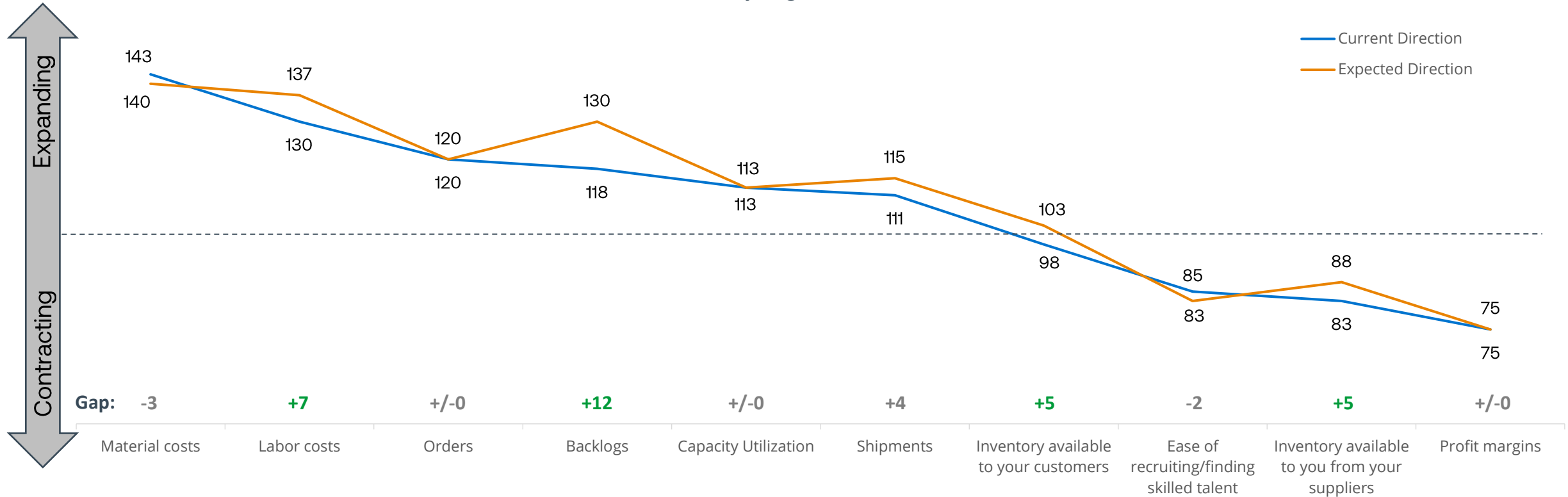
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The View From Companies Primarily Operating Globally



Direction of Key Business Indicators – Diffusion Index[^]

-- Primary Region: Global --



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December 2021 Special Questions

Manufacturers Indicate the Current Semiconductor Shortage is Driving Longer Lead Times, Delayed Deliveries, Declining Orders, Increased Inventories, Rising Costs, and Lost Production



Combined, these impacts are affecting manufactures' ability to complete orders altogether and are ultimately reducing profitability for manufacturers world-wide.

Greatest Impacts of Semiconductor Shortages on Business

-- Verbatim Responses --

"Long lead times resulting in delayed product shipments." *North America, Equipment Supplier*

"Increases in Work-in-Process Inventory and increases in prices." *North America, Contract Electronics Manufacturing Services*

"Constant redesign, ship short, delayed schedules, cancelled projects." *North America, Other Manufacturer*

"It is hard to find chips and other parts; therefore, raising the cost of manufacturing." *Europe, Original Equipment Manufacturer*

"Longer lead times and increased costs." *APAC, Contract Electronics Manufacturing Services*

"It has caused us to carry extra inventory of "other" components, increasing inventory levels 2x." *North America, Contract Electronics Manufacturing Services*

"Delayed shipments of finished products. Reworking existing products to mitigate shortages." *North America, Original Equipment Manufacturer*

"We are finding it very difficult to complete orders. There are a lot of parts on back-order, so when and if we get the parts, we are scrambling to get the job done as quickly as possible." *North America, Contract Electronics Manufacturing Services*

"Much longer delivery times than usual (double)." *Europe, Contract Electronics Manufacturing Services*

"Carrying over head cost on 25% lower production." *North America, Materials Supplier*

"Rising costs and production stops." *Europe, Original Equipment Manufacturer*

"Additional backlogs created by lack of clarity on deliveries. Customer uneasiness with extended lead times - they are therefore asking suppliers to carry inventory for them by buying ahead and/or placing larger blanket orders to cover potential demand." *North America, Wire Harness and Cable Assembly Manufacturer*

"Our customers are PCB makers. If less semicon is available, less PCB is needed. Result: our orders are declining." *Europe, PCB Board Fabricator/Supplier*

"Lost production and huge delivery pressure." *North America, Original Equipment Manufacturer*

"We do not have the parts to fill customer orders, and if we did, we don't have enough labor to build the demand. Don't see any relief on either front anytime soon." *North America, Contract Electronics Manufacturing Services*

"Our orders are reduced by around 20% based on our customers not getting orders due to the shortage." *North America, Component Supplier*

"Constant rescheduling of normally stable production parts to simply accommodate what can be made vs. what cannot." *North America, Wire Harness and Cable Assembly Manufacturer*

Appendix

Current Conditions Diffusion Indices

Month-to-Month Comparisons



	September 2021	October 2021	November 2021	December 2021
Material costs	144	144	145	145
Labor costs	133	136	135	137
Orders	127	124	123	123
Backlogs	125	122	124	124
Shipments [^]	--	--	--	117
Capacity utilization	114	115	110	114
Profit margins	96	91	90	87
Inventory available to your customers	89	92	87	91
Ease of recruiting/finding skilled talent	77	80	77	78
Inventory available to you from your suppliers	73	78	73	77

[^]Added December 2021

Δ+5 points or more vs. previous month

Δ-5 points or more vs. previous month

Outlook Diffusion Indices

Month-to-Month Comparisons



	September 2021	October 2021	November 2021	December 2021
Material costs	136	139	138	139
Labor costs	131	135	133	133
Orders	126	128	126	125
Backlogs	112	116	116	120
Shipments [^]	--	--	--	120
Capacity utilization	119	118	116	118
Profit margins	103	100	96	92
Inventory available to your customers	100	100	99	97
Ease of recruiting/finding skilled talent	91	88	86	82
Inventory available to you from your suppliers	95	92	88	90

[^]Added December 2021

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 December 10 to December 27, 2021.



Questions? Please contact:

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