McKinsey&Company

Moving Laggards to Early Adopters (Maybe even innovators)

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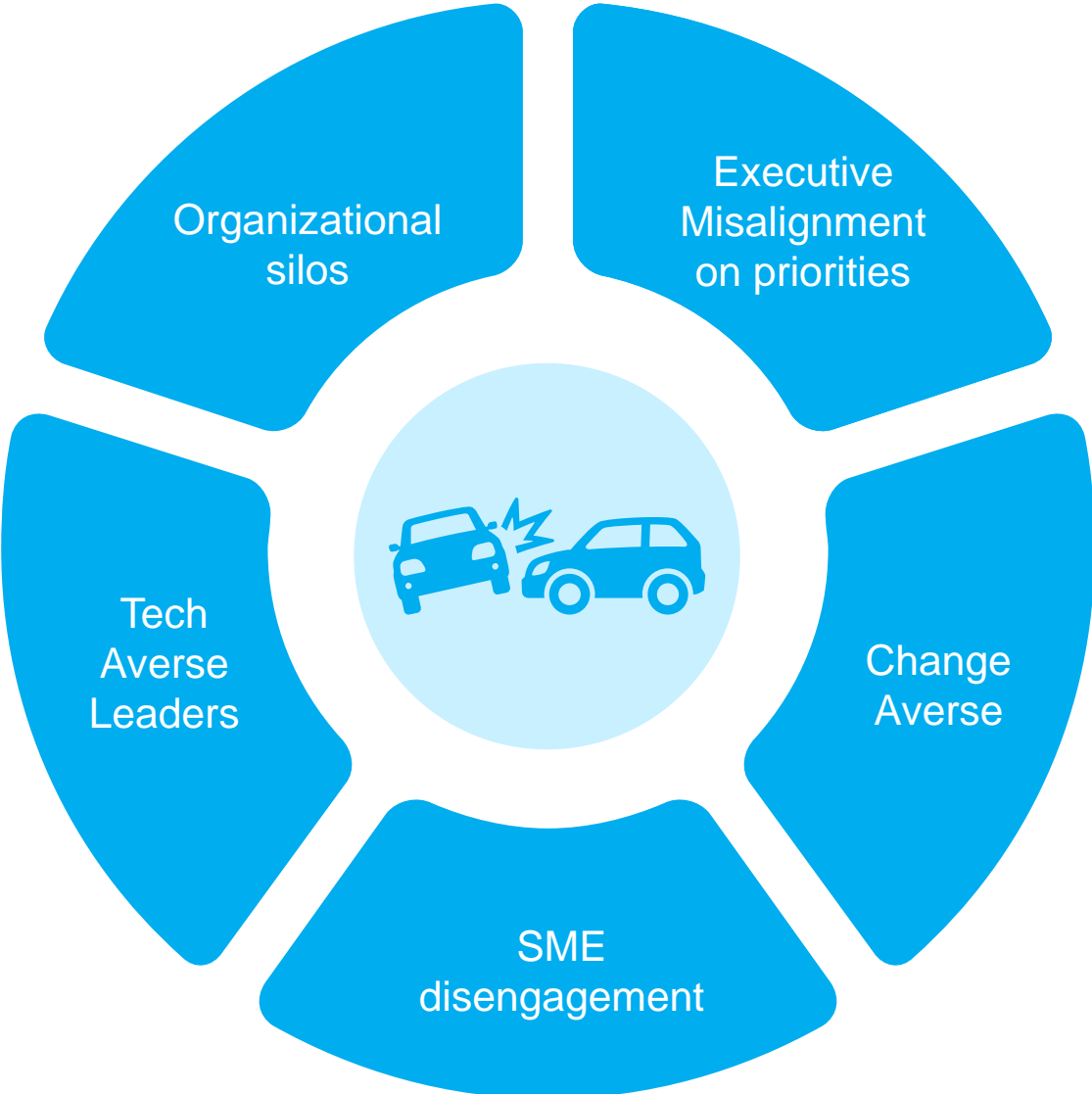# Moving Laggards to Early Adopters (maybe even Innovators)

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The presentation will focus on what happens when technology is implemented, or processes are changed, and subject-matter experts (SME) are not engaged soon enough.

Most organizational models over time devolve into siloed organizations. As PLM tools function as a repository of product and process information and a backbone for moving information, organizations often have the infrastructure to exchange product and process information across the enterprise if infrastructure, data models, and stakeholders allow.

Yet, organizational change that involves altering ingrained processes and practices is often met with resistance and a lack of adoption. Modern enterprises require technically detailed, complex PLM solutions and methods to support increasingly complex products.

Overview of Challenges with Technology Implementation in Manufacturing

- Organizational silos
- Executive Misalignment on priorities
- Tech Averse Leaders
- Change Averse
- SME disengagement

Overview of Challenges with Technology Implementation in Manufacturing

Technical Solutions

- Business case development
- Globally common solution platform
- Supplier engagement
- Ideation process and solution pipeline

Value-driven, technology identification and implementation

Management Infrastructure

- Executive alignment
- Talent management
- Implementation management
- Decentralized and uncoordinated
- Overlapping roles

Best people, best processes

Mindsets and Behaviors

- Technology first instead of value first
- Technology averse
- Resistance to change
- Non-utilization of data for decision making
- Tribal-knowledge-based processes

Winning mindset and cultural transformation

Strategic alignment of technical solutions with business imperatives

Technical Solutions

Business case development

Lack of discipline in tying business value to project proposals

Globally common solution platform

Globally uncoordinated technology selection and implementation.

Supplier engagement

Lack of a formal process to build relationships with suppliers, employ technology scouts to scout for innovations and make the make/buy decision

Ideation process and solution pipeline

Ad hoc approach to idea solicitation, generation

Governance model with executive alignment with plan and deliverables

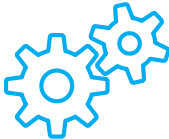## Management Infrastructure

Executive alignment

Lack of support from executive leadership and lacking in positive intent

Siloed, Decentralized and uncoordinated

Lack of centralized roles to coordinate ideation and implementation across functions, regions and org structures

Overlapping roles that create fuzziness on ownership and accountability

Implementation management

Lack of accountability on deliverables; misalignment of KPIs between involved organizations (e.g. IT and engineering)

'Value first' approach to technology selection

Mindsets and Behaviors

Technology first instead of value first

Leaders and SMEs are drawn more to the latest technology instead of digging deeper into the business benefit
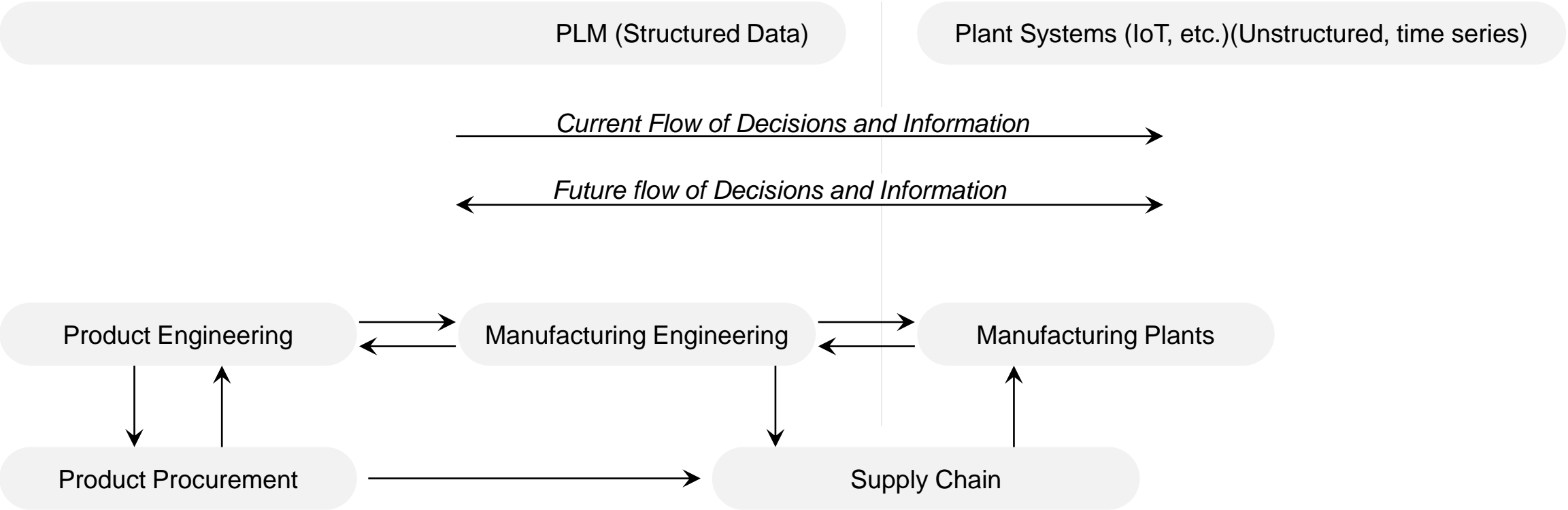
Technology averse

Leaders averse to technology that they are unable to comprehend.

Equate technology with increased complexity and focus disproportionately on the pitfalls

Resistance to change

Shift in spheres of influence and changing roles and responsibilities

Data Landscape and Information and Decision Flows

Digital Manufacturing

PLM (Structured Data)

Plant Systems (IoT, etc.)(Unstructured, time series)

Current Flow of Decisions and Information

Future flow of Decisions and Information

Product Engineering ⇄ Manufacturing Engineering ⇄ Manufacturing Plants
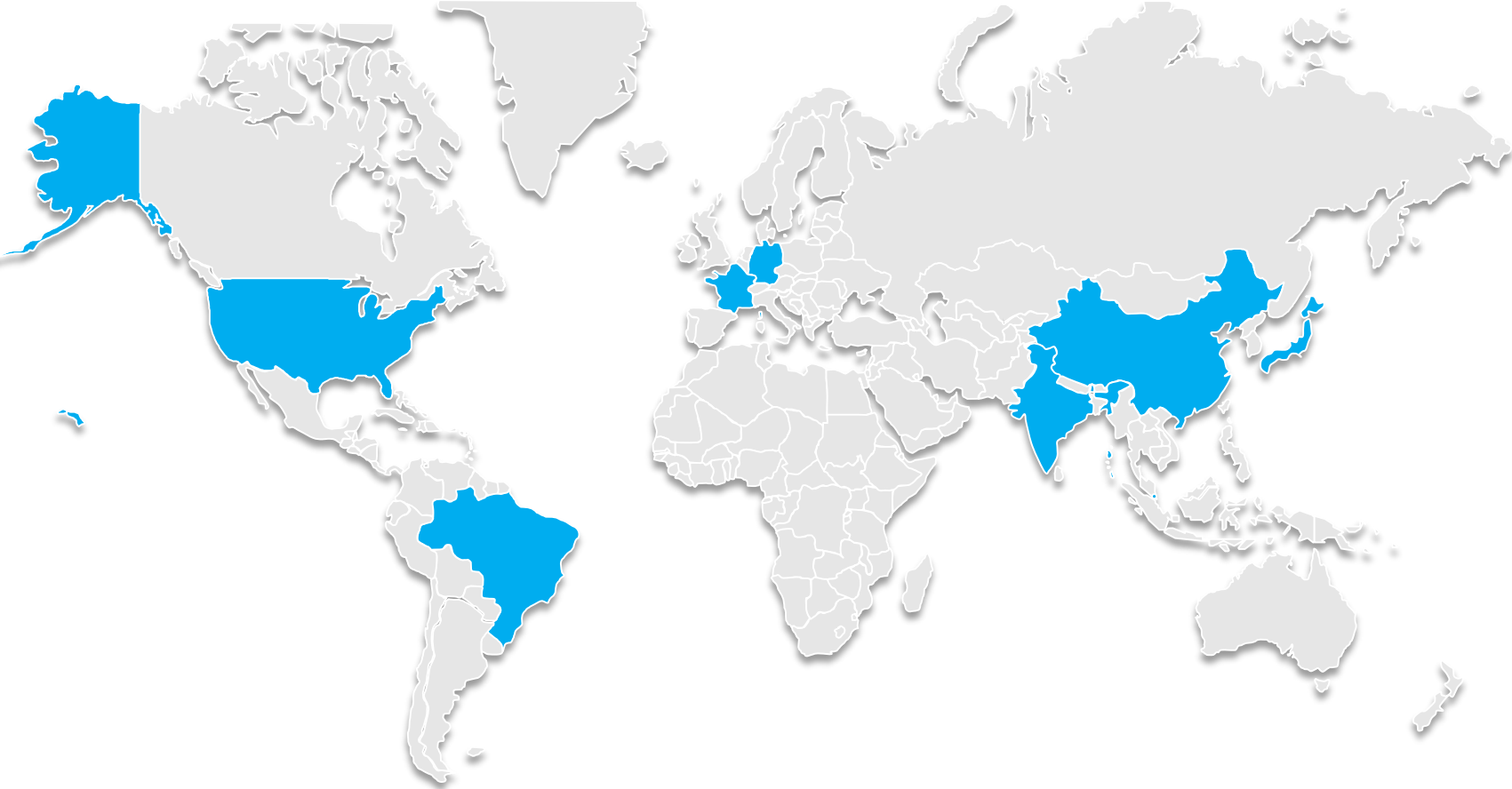
Product Procurement → Supply Chain

McKinsey recently conducted its 2018 Global Industry 4.0 Survey across 7 key markets

Survey key facts

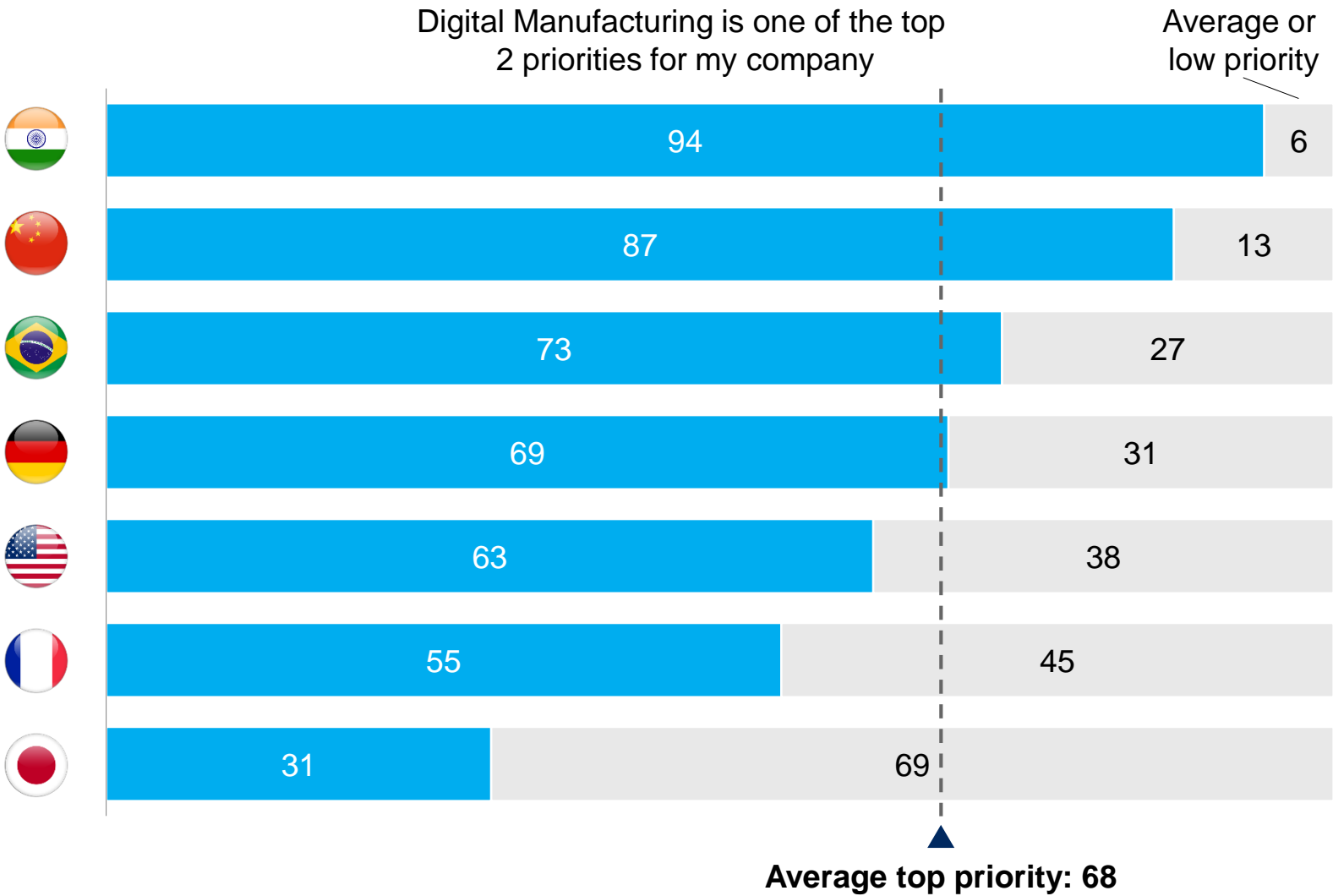**>700 qualified respondents** from medium and large companies

Spanning **all major industry sectors**

7 key markets (Brazil, China, France, Germany, India, Japan, US)

Respondents cited Digital Manufacturing as a high priority on the majority of company agendas

How much of a priority is Digital Manufacturing on your company's agenda?, Percent

Digital Manufacturing is one of the top 2 priorities for my company | Average or low priority

Country	Top 2 priorities	Average or low priority
India	94	6
China	87	13
Brazil	73	27
Germany	69	31
USA	63	38
France	55	45
Japan	31	69

Average top priority: 68

Optimism around Digital Manufacturing seems to be continuing to grow although some are becoming frustrated with challenges

More optimistic   **Less optimistic**   **Unchanged**

To what extent has your view concerning the potential of Industry 4.0 changed compared to 1 year ago?, percent

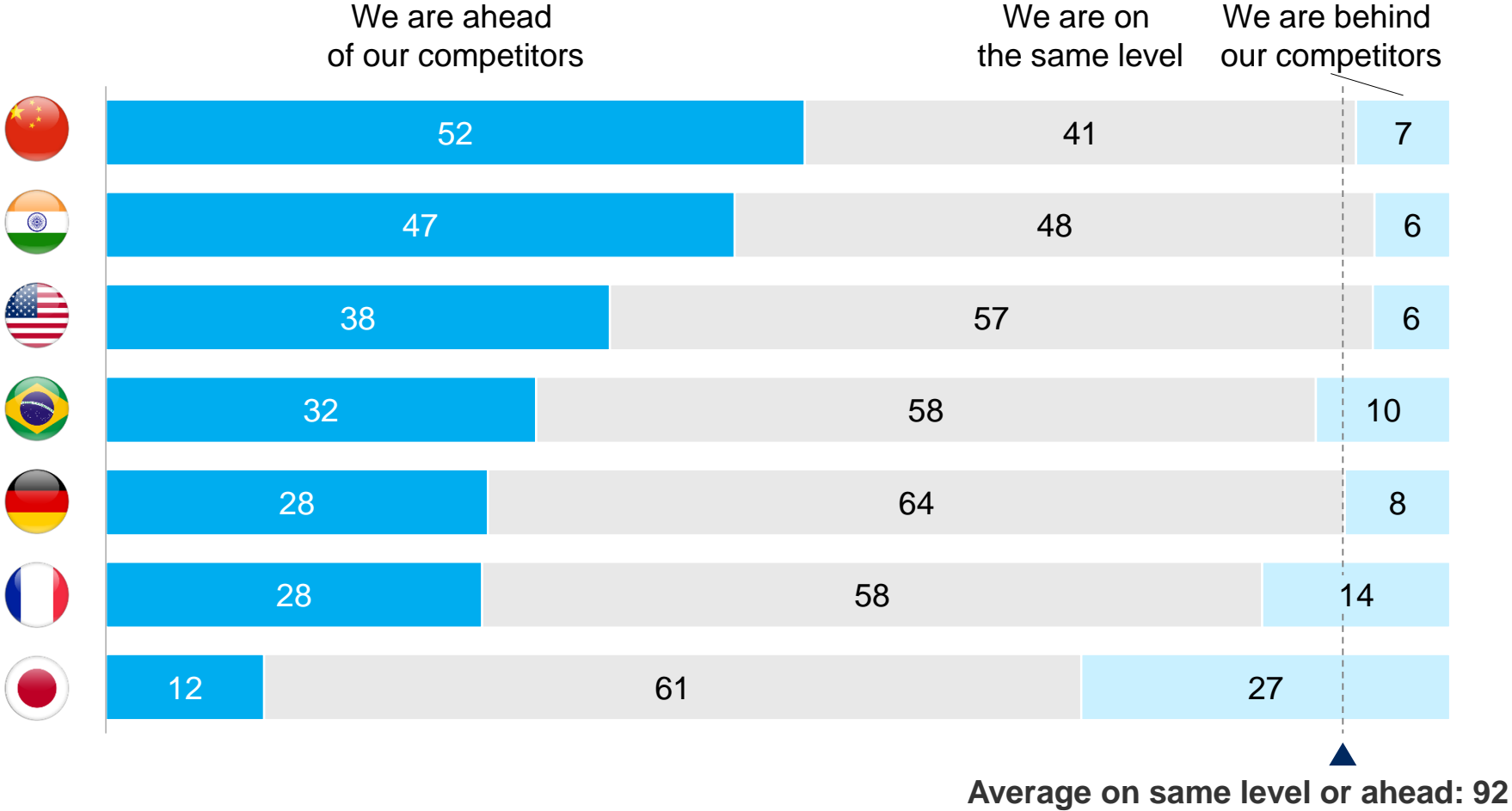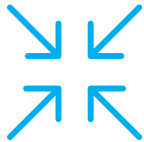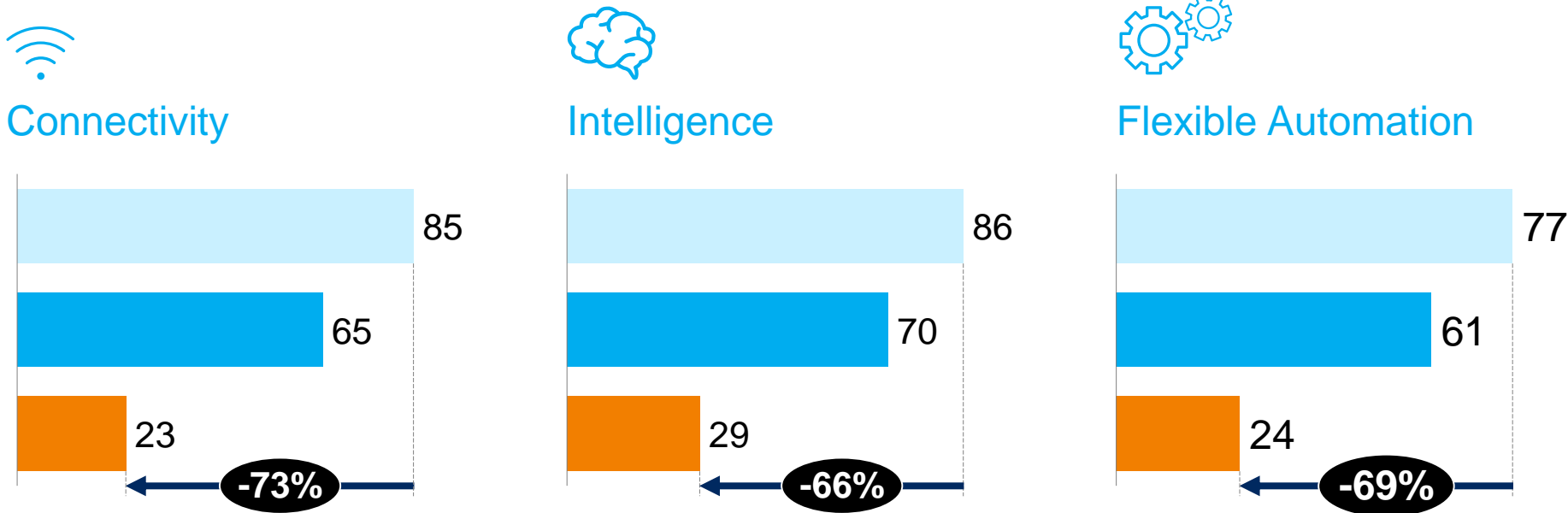| Country	More optimistic	Unchanged	Less optimistic
China	73	21	6
Brazil	58	32	10
India	57	37	6
USA	47	39	14
France	32	50	18
Germany	27	56	17
Japan	4	71	25
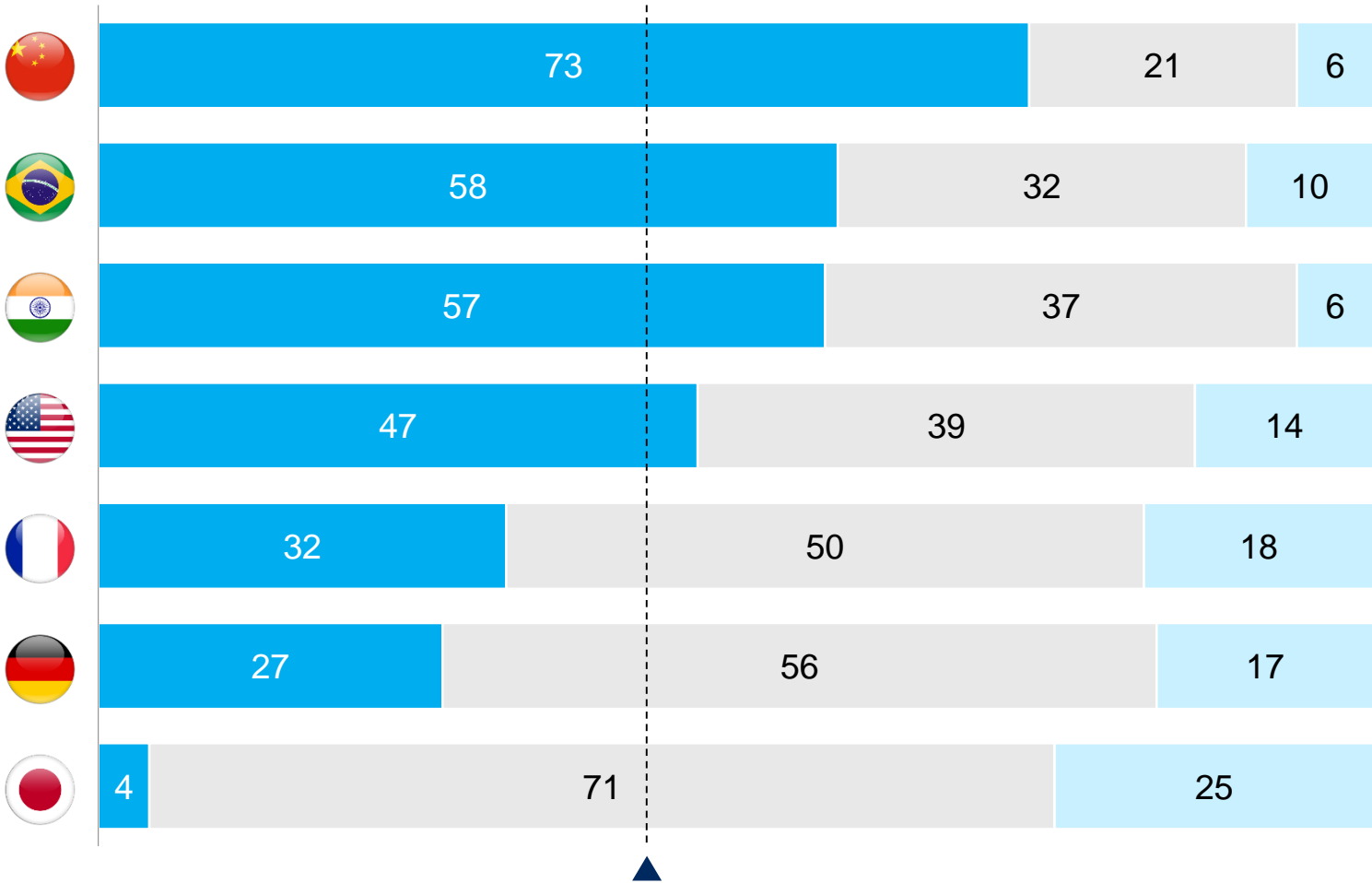
▲ Average increased optimism = 43%

Is overconfidence slowing progress? Most organizations think that they are ahead of, or at the same level as, their competitors

How do you feel you are placed relative to most of the competitors in your industry with respect to implementing and capturing value from Digital Manufacturing?, Percent

	We are ahead of our competitors	We are on the same level	We are behind our competitors
🇨🇳	52	41	7
🇮🇳	47	48	6
🇺🇸	38	57	6
🇧🇷	32	58	10
🇩🇪	28	64	8
🇫🇷	28	58	14
🇯🇵	12	61	27

Average on same level or ahead: 92

The majority of companies say they have already successfully conducted at least one Digital Manufacturing pilot, however few have moved to roll-out

At what stage are you in adopting specific Digital Manufacturing solutions in your company?, Percent

Connectivity

Relevant for company	85
Pilot phase (or advanced)	65
Roll-out Phase	23

-73%

Intelligence

Relevant for company	86
Pilot phase (or advanced)	70
Roll-out Phase	29

-66%

Flexible Automation

Relevant for company	77
Pilot phase (or advanced)	61
Roll-out Phase	24

-69%

High relevance of Digital Manufacturing Solutions across three use case types with many pilots underway

Lacking impact at scale of these relevant solutions with only ~25% in companywide roll-out

3 dimensions to escape 'pilot purgatory' and ensure sustainable value capture and business transformation

Business value — Value Driven

Technology setup — Strategic view on technology

Organizational prerequisites — Governance model with C-suite alignment and push

Focus on value rather than going after 'shiny objects'

Business value

Be value-back not technology-forward: create a prioritized roadmap and associated business case

Develop a **compelling strategic vision and early 'lighthouses'** to inspire the organization

Communicate the vision across the value chain and **develop influential evangelists** to support the vision and implementation

Agile technology development that 'fits' with the strategic narrative

Technology setup

Be selective what technology to build in-house vs. partnering with others

Build capability to test and iterate solutions in an agile manner

Ensure alignment of technologies with the strategic imperatives of the organization and the KPIs that are targeted for improvement

C-suite-driven with clearly defined and communicated governance model

Organizational prerequisites

Drive transformation from the top with clear business ownership

Lock in benefits to the bottom line through capability building and business process change

Thank You!