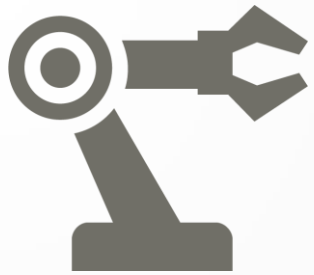# Global Digital Transformation Survey Report

Industry Report:
MANUFACTURING

Digital Transformation Delivering Business Outcomes

shaping tomorrow with you

FUJITSU

Contents

Introduction: The Manufacturing industry and digital transformation

This report contains analysis of data from the manufacturing industry for the 2017 Fujitsu Global Digital Transformation Survey. The research was conducted to find out more about how business leaders are responding to digital transformation challenges, and to identify what initiatives they are undertaking in the area. We received 1,614 responses from business leaders across 15 countries, including 314 responses from respondents in the manufacturing industry.

Digital technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI) are being embedded into core value-generation processes in business and society, transforming people's work and daily lives and generating innovation. This is digital transformation. Business leaders around the world are becoming aware of the power of digital transformation, and taking action to realise its huge potential.

Today, digital technologies are moving into the heart of everything we do, changing the way businesses and people work, how they live and how they innovate. In the new digital society, digital transformation and digital co-creation become business norms. Digital co-creation means blending your business expertise and digital technology, and creating new value – together with ecosystem partners and customers – to shape a better future.

Digital transformation initiatives usually start from the testing phase, then a Proof of Concept (PoC) and a Proof of Business (PoB) phase, and then shift to the implementation phase. But new technology alone is not sufficient for digital transformation. New talents, and people who have different skills and innovative ways of doing things, are required. Leadership, agility and co-creation with partners are very important elements.

The theme of the Global Digital Transformation Survey is aligned with the story of Fujitsu Technology and Service Vision, which sets out our vision and insights into how business leaders can leverage digital transformation in business and society, enabling and creating a better future.

The Fujitsu Technology and Service Vision can be downloaded from the following link:
URL: http://www.fujitsu.com/global/vision/

Key findings

- Marketing is the top functional area for digital transformation in organizations in the manufacturing industry, with 40.4% of organizations reporting projects in that area.

- The most positive outcome of digital transformation is improved efficiency or reduced cost, with half (50.0%) of respondents reporting this as the most positive outcome. Many organizations also report strengthened relationship with customers (42.7%) and strengthened competitiveness of products (40.4%) as positive outcomes.

- Key factors in delivering digital transformation are streamlined organizations and processes (19.4%), aligned digital with existing IT (16.7%) and talented staff with the right skills (15.3%).

- Almost a third (30.6%) of manufacturing industry leaders say it is important to have a strong technology partner to achieve digital transformation. They believe these technology partners need to have strong technological capability (19.7%) and an understanding of the organization's business (19.1%).

- Most respondents believe that artificial intelligence (AI) represents an opportunity (72.6%), rather than a threat (just 5.7%). More respondents (79.6%) believe that AI will enhance people's capabilities in the future, but 66.6% believe that jobs may be displaced.

- Business leaders in the manufacturing industry believe that creativity and imagination is the most important capability needed in the digital era. It was rated the most important capability by 23.9% of respondents. This was followed by a professional knowledge of digital technologies (16.9%), knowledge of specific business functions (11.8%) and logical and analytical capability (also 11.8%). These results indicate a strong perception that a balance of skills is needed to drive digital transformation.
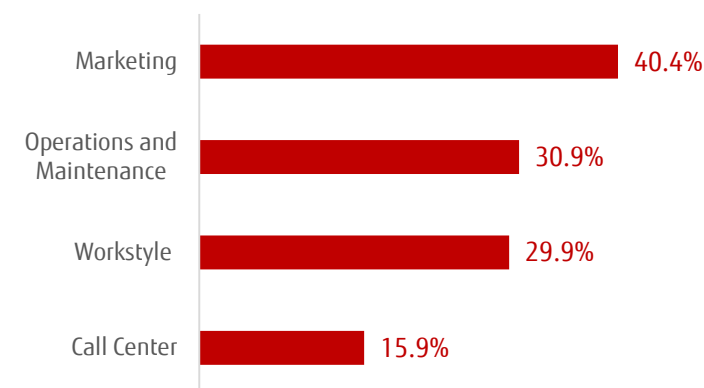
What is the focus of digital transformation?

Digital transformation is undertaken in many functional areas. The survey asked Manufacturing industry business leaders about the extent to which digital transformation has been implemented in four key cross functional business infrastructure areas common to most organizations: marketing, work style transformation, operations and maintenance, and call centers.

Of these functions, digital transformation is the most likely to take place in marketing, reported by 40.4% of respondents. Operations and maintenance (30.9%), workstyle transformation (29.9%) and call centers (15.9%) are also areas in which a significant amount of digital transformation is taking place.

The survey also asked about the status of digital transformation in more specific functions. Almost half (47.5%) of companies have implemented or are implementing digital transformation process in their manufacturing processes.

This was followed by 22.0% who reported logistics. Also mentioned were other industry-specific manufacturing functions (12.4%) and finance (10.2%).

What is the functional focus of your digital transformation? (cross functional)

Marketing	40.4%
Operations and Maintenance	30.9%
Workstyle	29.9%
Call Center	15.9%

What is the functional focus of your digital transformation? (specific functions)

Manufacturing	47.5%
Logistics	22.0%
Other	12.4%
Finance	10.2%
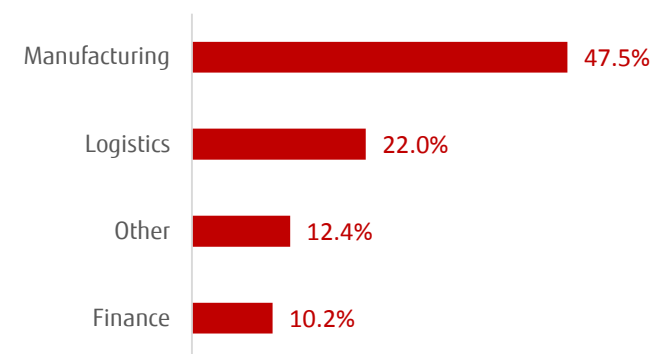
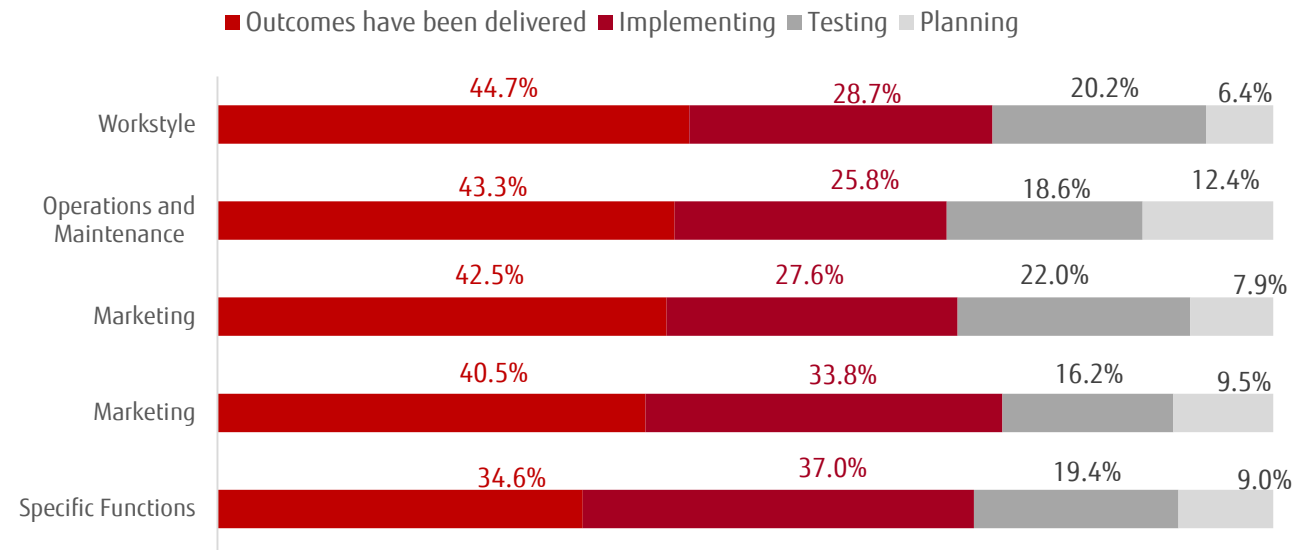# How advanced are organisations on their digital journey?

The highest level of delivered digital transformation outcomes in the Manufacturing industry is in workstyle (44.7%), call center (44.0%) and operations and maintenance (43.3%).

Also delivered were marketing (42.5%) and industry-specific projects (34.6%).

(Note that this chart aggregates specific functional areas on the previous chart.)

The results indicate that digital transformation is advanced amongst organizations in the Manufacturing industry. The great majority of projects are in the process of being implemented or have delivered on their outcomes, with some in the testing phase and few in the planning phase.

Which best describes the progress of the digital transformation?

■ Outcomes have been delivered ■ Implementing ■ Testing ■ Planning

	Outcomes have been delivered	Implementing	Testing	Planning
Workstyle	44.7%	28.7%	20.2%	6.4%
Operations and Maintenance	43.3%	25.8%	18.6%	12.4%
Marketing	42.5%	27.6%	22.0%	7.9%
Marketing	40.5%	33.8%	16.2%	9.5%
Specific Functions	34.6%	37.0%	19.4%	9.0%

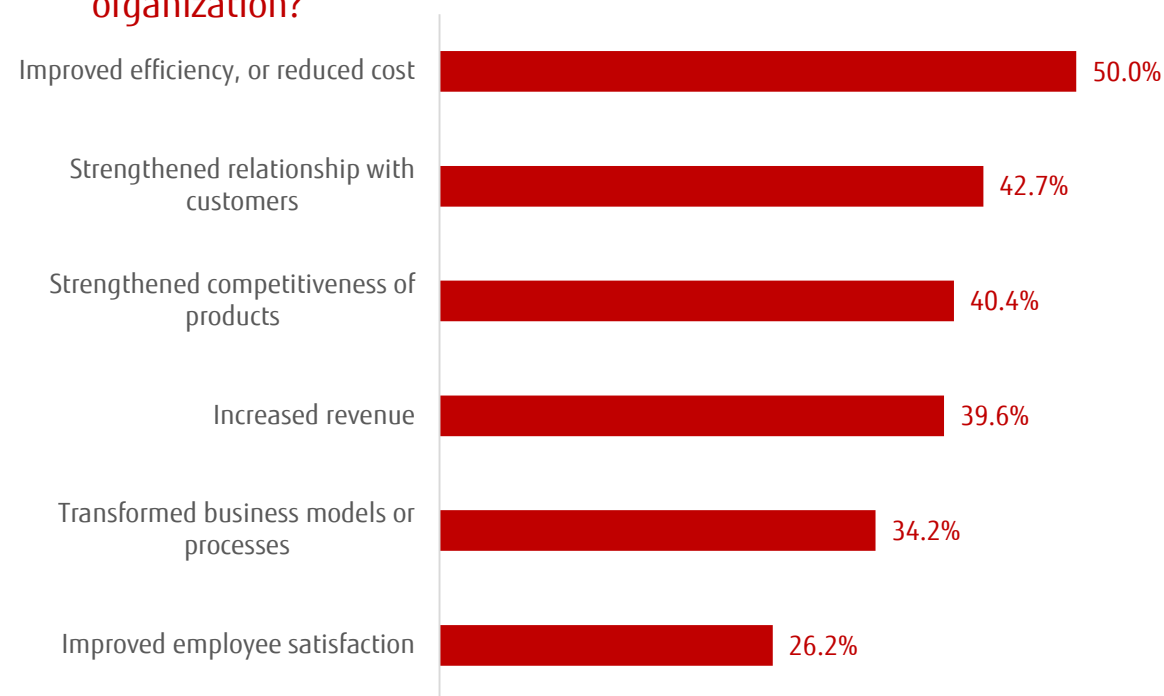# What are the benefits of digital transformation?

The survey asked manufacturing industry business leaders what kind of outcomes have been delivered through their digital transformation projects. Half (50.0%) say that the greatest benefit of digital transformation has improved efficiency or reduced cost.

42.7% say it has strengthened relationship with customers and 40.4% say that it has strengthened the competitiveness of products.

Other benefits are increased revenue (39.6%), transformed business models or processes (34.2%) and improved employee satisfaction (26.2%).

The results indicate that there are many benefits of digital transformation in the manufacturing industry. The effects are felt across the organization, not just on the bottom line.

Which outcomes has digital transformation delivered to your organization?

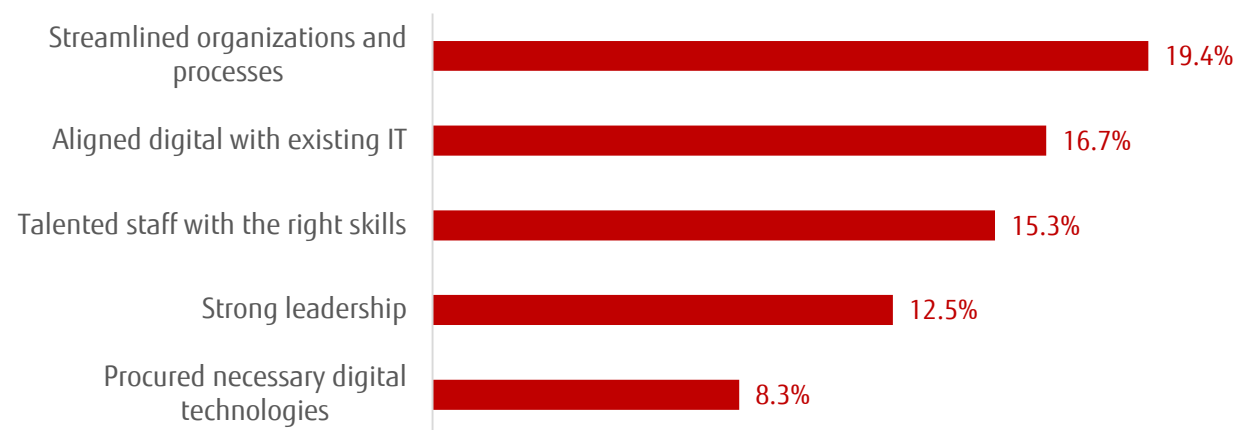| Outcome	Percentage
Improved efficiency, or reduced cost	50.0%
Strengthened relationship with customers	42.7%
Strengthened competitiveness of products	40.4%
Increased revenue	39.6%
Transformed business models or processes	34.2%
Improved employee satisfaction	26.2%

What are the key success factors and inhibitors in digital transformation?

Digital transformation is not just about introducing new technologies. In order to deliver successful outcomes, organizations need streamlined processes, talented staff and the right IT systems and processes.

The survey asked manufacturing industry business leaders what they believed to be the key factors for successful digital transformation. At the top of the list is streamlined organizations and processes (19.4%), followed by aligned digital with existing IT (16.7%), talented staff with the right skills (15.3%), strong leadership (12.5%) and procured digital technologies (8.3%).

The survey also asked about which factors hindered digital transformation. The most often mentioned was a lack of: talented staff with the right skills (17.2%), fear of change or internal resistance (12.0%) and a lack of budget (11.7%). Lack of leadership (10.6%) and concern of cyber security risks (9.9%) were also mentioned.

Which factors were key in delivering digital transformation outcomes?

Factor	%
Streamlined organizations and processes	19.4%
Aligned digital with existing IT	16.7%
Talented staff with the right skills	15.3%
Strong leadership	12.5%
Procured necessary digital technologies	8.3%

Which factors hindered the progress of digital transformation?

Factor	%
Lack of talented staff with the right skills	17.2%
Fear of change or internal resistance	12.0%
Lack of budget	11.7%
Lack of leadership	10.6%
Concern of cyber security risks	9.9%
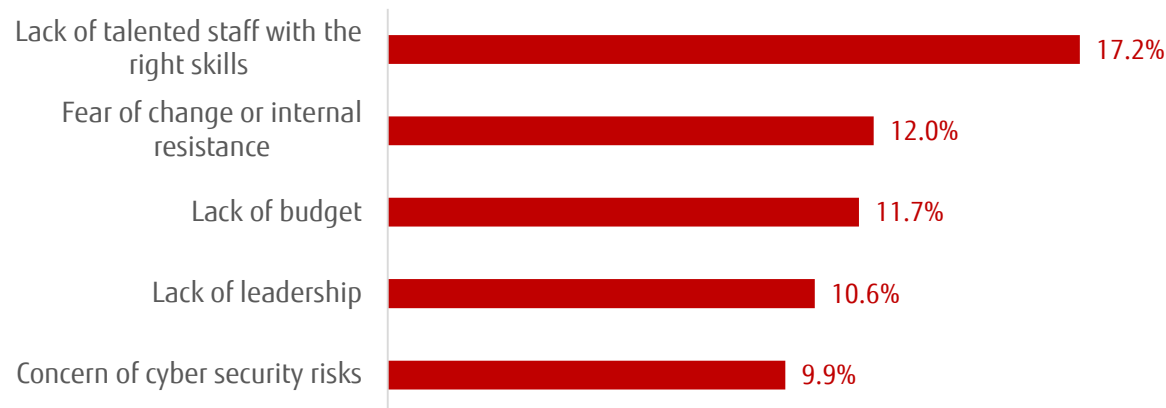
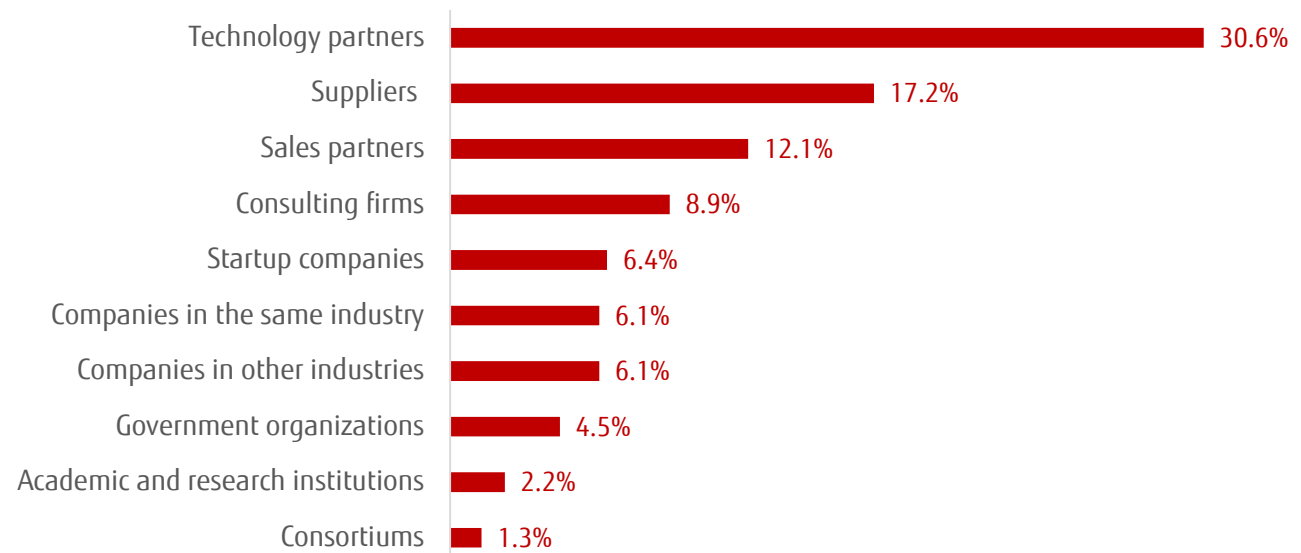# How important is a strong technology partner for digital transformation?

Success in digital transformation requires cooperation with external partners. Business leaders in the manufacturing industry were asked which types of partners were most important.

The most highly rated were technology partners, ranked as most important by nearly one third (30.6%) of respondents. Other important partners were suppliers (17.2%), sales partners (12.1%) and consulting firms (8.9%).

Respondents were also asked about what they expect from a technology partner. The most important attributes are technological capability (19.7%) and an understanding of the organization's business (19.1%).

Trust for collaboration (16.9%) and an alignment with the organization's vision and strategy (14.6%) were also mentioned.

Which partners are important to collaborate with for digital transformation?

Partner	%
Technology partners	30.6%
Suppliers	17.2%
Sales partners	12.1%
Consulting firms	8.9%
Startup companies	6.4%
Companies in the same industry	6.1%
Companies in other industries	6.1%
Government organizations	4.5%
Academic and research institutions	2.2%
Consortiums	1.3%

What do you expect from a technology partner for digital transformation?

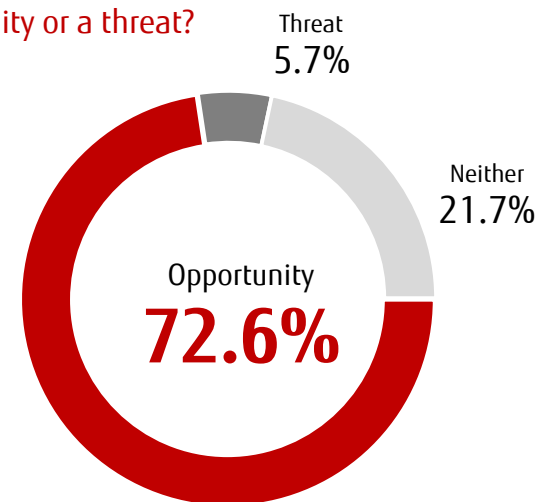| Expectation	%
Technological capability	19.7%
Understanding of your business	19.1%
Trust for collaboration	16.9%
Alignment with your vision and strategy	14.6%
Speed of response and implementation	8.0%
Quality of products or services	7.6%
Consulting capability	6.4%
Experience and track record	6.4%

What is the potential of Artificial Intelligence?

The survey asked manufacturing business leaders three questions about perceptions of artificial intelligence (AI).
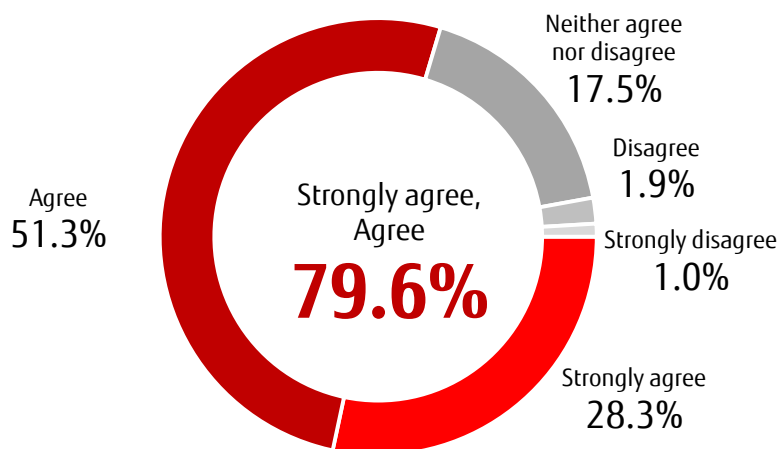
Of the respondents surveyed, 72.6% see AI as an opportunity, with just 5.7% seeing it as a threat. But there is some ambivalence about its effects.

Most survey respondents strongly agree (28.3%) or agree (51.3%) that AI will enhance people's capabilities in future, but they also believe that AI will be used for work currently performed by people (18.2% strongly agree, 48.4% agree).
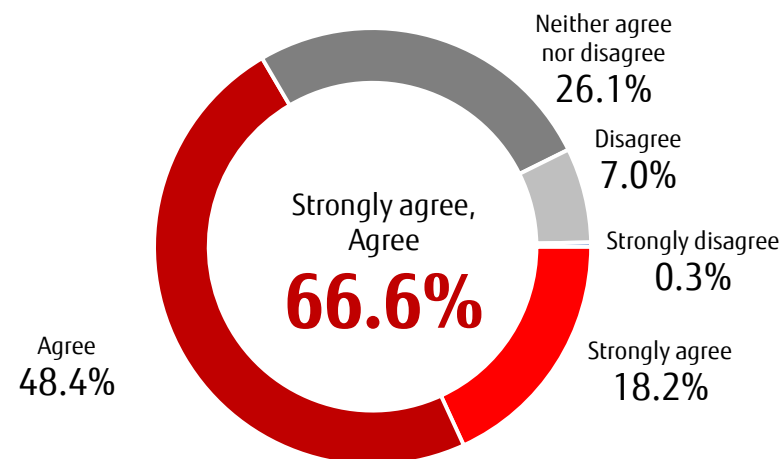
Is AI an opportunity or a threat?

Threat
5.7%

Neither
21.7%

Opportunity
72.6%

Will AI enhance people's capabilities in the future?

Neither agree
nor disagree
17.5%

Disagree
1.9%

Strongly disagree
1.0%

Strongly agree,
Agree
79.6%

Strongly agree
28.3%

Agree
51.3%

Will AI substitute for people's work in the future?

Neither agree
nor disagree
26.1%

Disagree
7.0%

Strongly disagree
0.3%

Strongly agree,
Agree
66.6%

Strongly agree
18.2%

Agree
48.4%

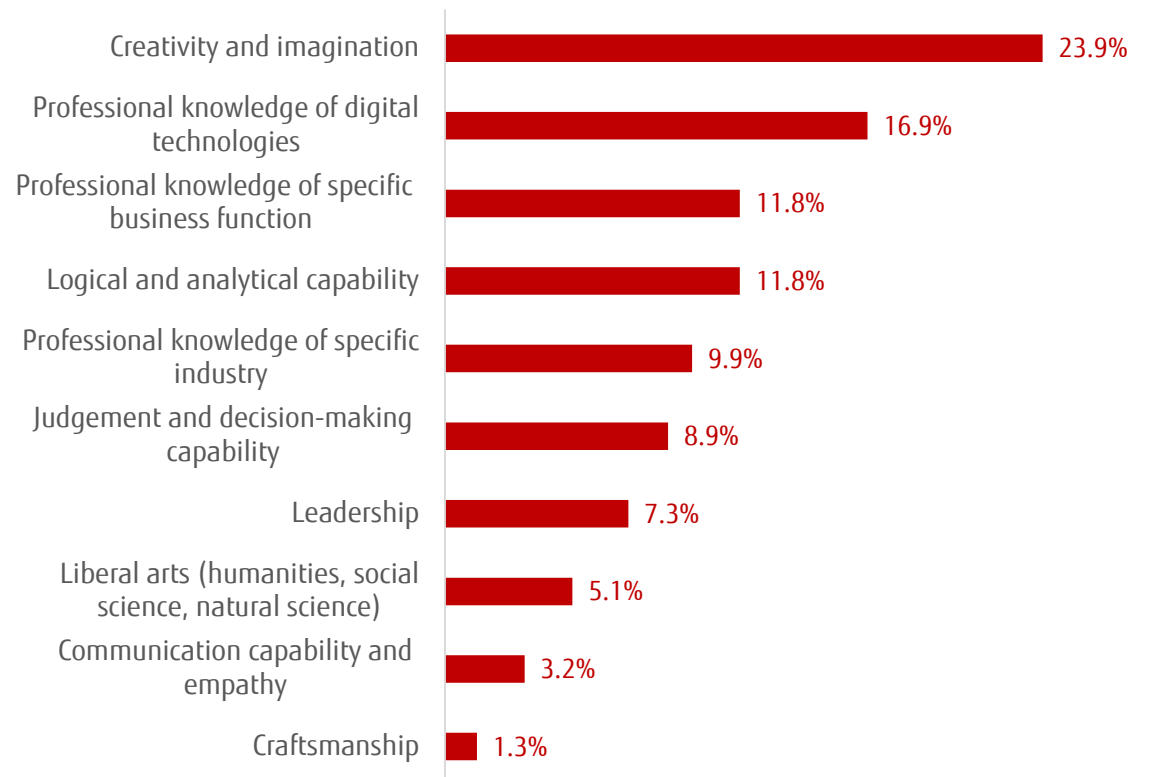# What are the key skills and capabilities required in the digital era?

Business leaders in the manufacturing industry believe that creativity and imagination is the most important capability needed in the digital era. It was rated the most important capability by nearly one quarter (23.9%) of respondents.

Next most important is a professional knowledge of digital technologies (16.9%). This was followed equally by knowledge of specific business functions, and logical and analytical capability (both 11.8%).

 Other important capabilities are knowledge of specific industry (9.9%) and judgement and decision-making capability (8.9%).

The range of capabilities mentioned indicates that while there is a heavy focus on professional knowledge, there is also a strong perception that a balance of skills is required to drive digital transformation – it is not just about technical capabilities.

What are the most important capabilities people need in the digital era?

Capability	Percentage
Creativity and imagination	23.9%
Professional knowledge of digital technologies	16.9%
Professional knowledge of specific business function	11.8%
Logical and analytical capability	11.8%
Professional knowledge of specific industry	9.9%
Judgement and decision-making capability	8.9%
Leadership	7.3%
Liberal arts (humanities, social science, natural science)	5.1%
Communication capability and empathy	3.2%
Craftsmanship	1.3%

About the survey

Survey topics:

- Current awareness of digital transformation: Fields, progress, outcomes, factors behind success, issues
- Co-creation in digital businesses: Required partners, elements required of technology partners
- AI (artificial intelligence) awareness: Perspective on AI, skills required during the digital era

Survey method:

- Online

Fieldwork period:

- February 2017

Survey respondents:

- Company size: Medium and large (at least 100 employees and sales of at least USD 1 million during the previous FY)
- Respondents: Management (CEOs, CMOs, CFOs, CIOs, CDOs, CSOs) and decision-makers equivalent to management

Sample composition and size:

The survey was of 1,614 business leaders in 15 countries, 9 of which were separately analyzed and across 18 industry sectors, 6 of which were separately analyzed.

Countries surveyed were:

- Americas: Canada (56)
- Europe: Finland (56), Germany (103), France (103) Spain (103), Sweden (52), United Kingdom (103)
- Asia: China (103), Indonesia (52), Japan (309), Republic of Korea (55), Singapore (103), Thailand (52)
- Oceania: Australia (106)

Major industries surveyed were:

- Construction (113), Finance/Insurance (138), IT/Communications (195), Manufacturing (314), Medical/Health/Welfare (100) and Wholesale/Retail (137).

Download the Global report at: http://www.fujitsu.com/global/microsite/vision/insightful-stories/survey1/