![AEGIS SOFTWARE]

Reaching the Digital Summit

How Manufacturers can
Achieve Digital Dominance

The list of challenges that manufacturers must overcome is lengthy, and the pressures seem to be ever-increasing. While supply chain slowdowns, resource shortages, process disruptions, and consumer demands are all top-of-mind for most manufacturers, many are taking advantage of this transformational time in manufacturing to focus on accelerating innovation and achieving digital dominance.

Now more than ever, competitive differentiation is emerging from superior digital capabilities that leverage data, automation, and people to optimize processes across the product lifecycle and the supply chain ecosystem. Data is at the foundation of digital dominance, yet the velocity, volume, and contextualization of this data is overwhelming manufacturers' infrastructure. To reach the digital summit, organizations must apply a strategic, trailblazing approach that is underpinned by a solid digital foundation.

Journey through this infographic to explore the drivers behind IIoT investment and identify the key mile markers on the journey to digital dominance.

Top Drivers Behind IIoT Strategy & Investment

Savvy manufacturers know that staying ahead of digital trends is essential to their success. They are applying improvements in product quality, security, sustainability, time-to-market, customer experience, and more in order to set themselves apart. According to IDC Research, the top drivers behind organizations' IIoT strategies and investments include[1]:
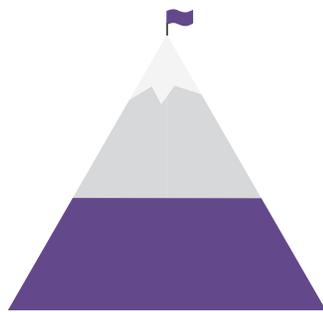
44%
Improve product or service quality
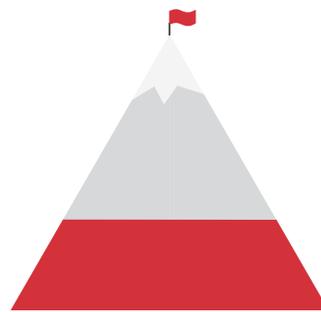
35%
Improve internal business productivity/efficiency/time-to-market
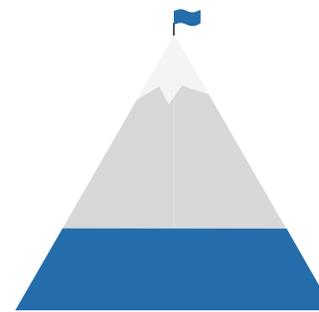
32%
Reduce internal operational costs
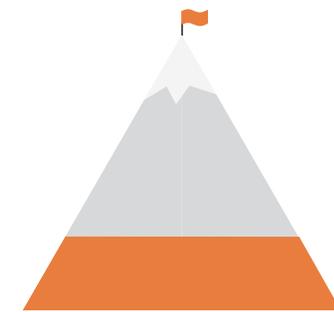
30%
Improve the customer experience
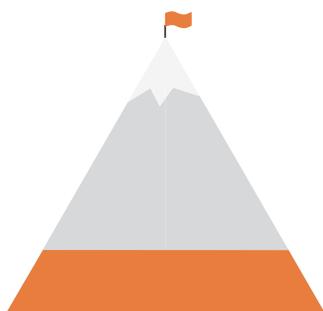
28%
Enable faster/better decision making
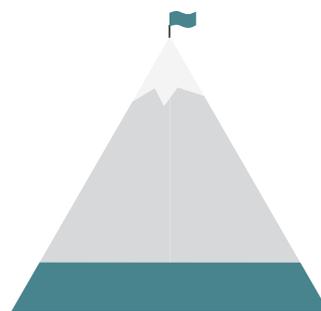
25%
Support sustainability goals
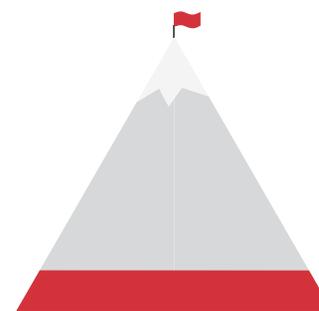
25%
Improve physical security
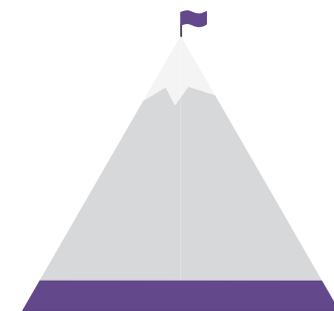
20%
Attain competitive differentiation

*% of respondents

Top Metrics for Measuring the Success of IIoT Projects

It's important for manufacturers to be able to measure their success, especially with regards to IIoT initiatives, where having concrete data is instrumental in driving change. According to IDC Research, manufacturers noted their most important success metrics as follows[2]:
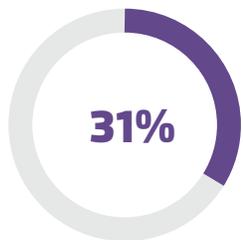
31%
Increased productivity/yield

27%
Operational efficiencies
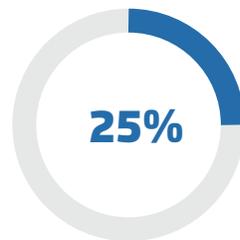
25%
Increased revenues
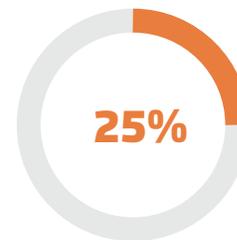
25%
Positive environmental impact
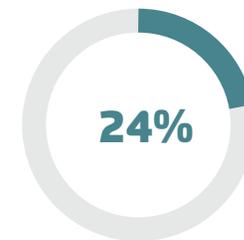
24%
Improved customer satisfaction

24%
Improved regulatory compliance
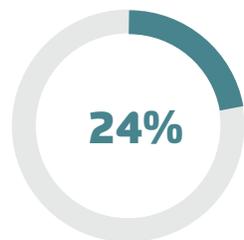
24%
Safety improvements

22%
Cost savings
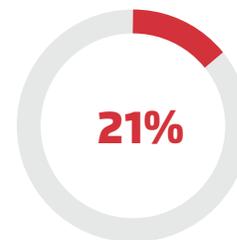
21%
Return on investment
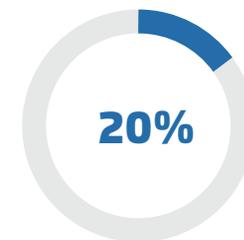
20%
Competitive gains or increased market share

Technology Boosts Manufacturing Process Productivity

It's trendy, yes, but does technology like IIoT really make a difference in manufacturing outcomes? According to Aberdeen Strategy & Research, the answer is a resounding yes. The majority of respondents reported that **better product quality, greater visibility, and improved operational equipment uptime were all tangible benefits of leveraging IIoT[3].** They also said implementing technology resulted in:

61%
Improved product quality

55%
Improved visibility, agility, & responsiveness

52%
Improved operational equipment uptime & availability

51%
Increased speed of operations

45%
Improved safety

45%
Reduced maintenance costs
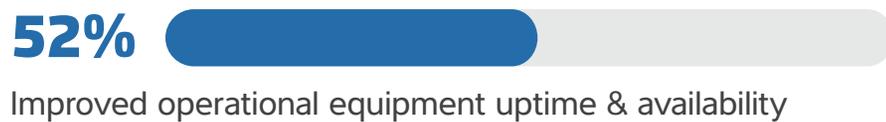
Using Analytics to Drive Innovation to New Heights

Utilizing data and analytics to inform decision making is a no brainer for organizations striving to achieve digital dominance. Companies that use analytics to process their IIoT data are better positioned to implement best practices and improve their quality goals. According to Aberdeen, the following are key areas of improvement[4]:

56%

82%

Quality assurance results for products recorded and analyzed

45%

76%

Manufacturing business processes are dynamically updated as new best practices emerge

38%

62%

Automated workflows to manage non-conformance, non-compliance, and recall events across the enterprise

35%

59%

Closed-loop processes for change related tasks

● **Analytics without IoT**

● **Using IoT with Analytics**

*% of respondents

Attaining the Business Value of Analytics–Enabled IIoT

Analytics-enabled IIoT drives digital dominance. Faster decision making and time–to–market help manufacturers keep up with the speed of business and outperform their competition. Aberdeen Strategy & Research notes that compared with non–users, companies using IIoT with analytics experience the following advantages in year–over–year performance[5].

15%
greater improvement in **time–to–decision**

13%
greater improvement in **manufacturing cycle time**

13%
greater decrease in **cost of non–quality** (warranties, recalls, etc.)

13%
greater increase in **average product ROI**

12%
greater increase in **overall profitability**

Where Manufacturers Invest to Drive Dominance

Manufacturers who are striving to achieve digital dominance are investing in certain areas that will drive forward change. **Automation is a key initiative, and a factor that directly contributes to "lights out" manufacturing—where efficiency is accelerated and human intervention is minimal.** IDC Research determined that organizations are looking at the following areas as investment opportunities—with manufacturing as the lead industry spearheading automation[6]:

● **All Industries**

● **Manufacturing**

Automation	Solutions for safety and health	Predictive and augmented maintenance	Remote asset monitoring	Robots and drones
56%	38%	37%	37%	28%
40%	34%	32%	35%	22%
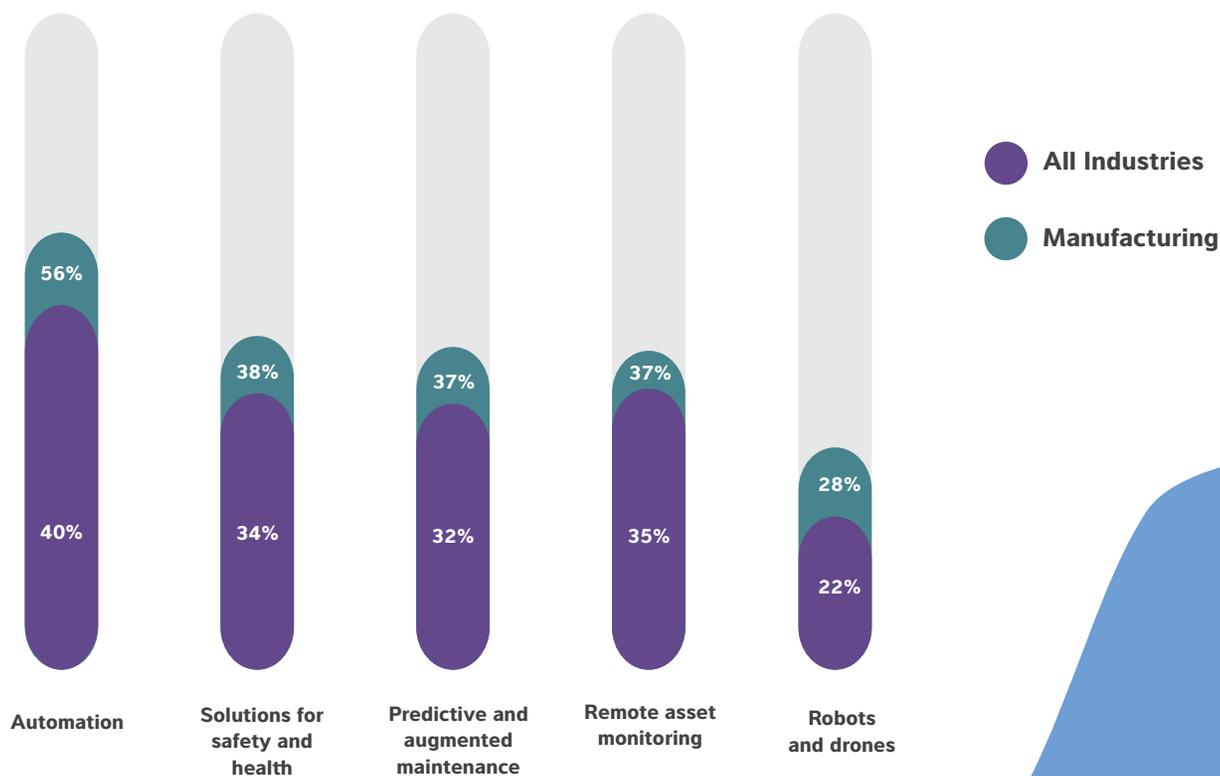
*% of respondents

Tech-Enabled Tools for the Journey to OpEx & Resilience

Technology is top of mind for manufacturing focused on resilience and operational excellence. According to IDC Research, the vast majority of survey respondents say that cloud technology, sensor technologies, and Edge/IIoT devices are either "important" or "critical" to achieving resilience and efficiency in operations[7]:
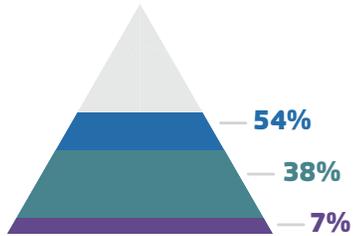
Cloud technology
- 54%
- 38%
- 7%
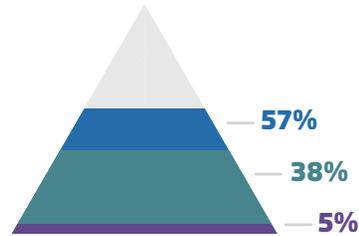
New sensor technologies
- 57%
- 38%
- 5%
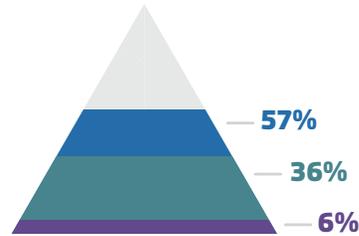
Edge/IIoT devices to capture operational data
- 57%
- 36%
- 6%
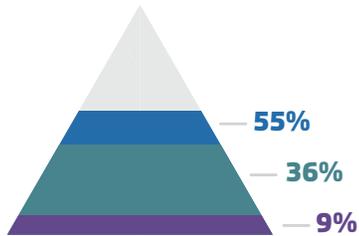
Mobile technology
- 55%
- 36%
- 9%
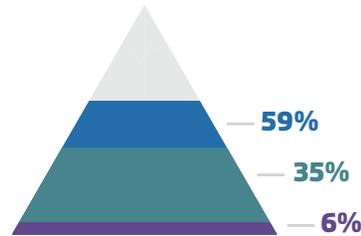
Advanced analytics/ predictive analytics
- 59%
- 35%
- 6%
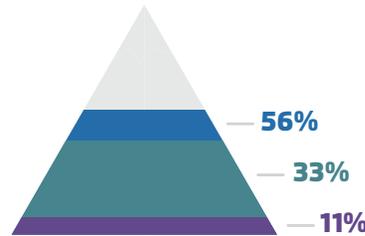
Artificial intelligence or machine learning
- 56%
- 33%
- 11%
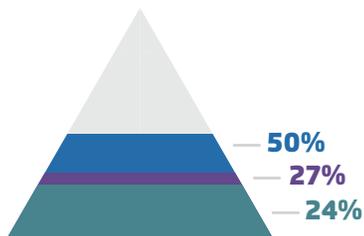
Robotics
- 50%
- 27%
- 24%
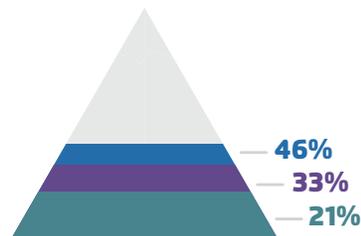
3D printing
- 46%
- 33%
- 21%
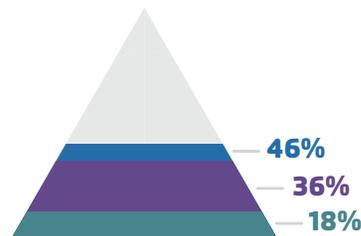
Augmented and virtual reality
- 46%
- 36%
- 18%

Percentage of respondents saying technology is not relevant

Percentage of respondents saying technology is critical

Percentage of respondents saying technology is important
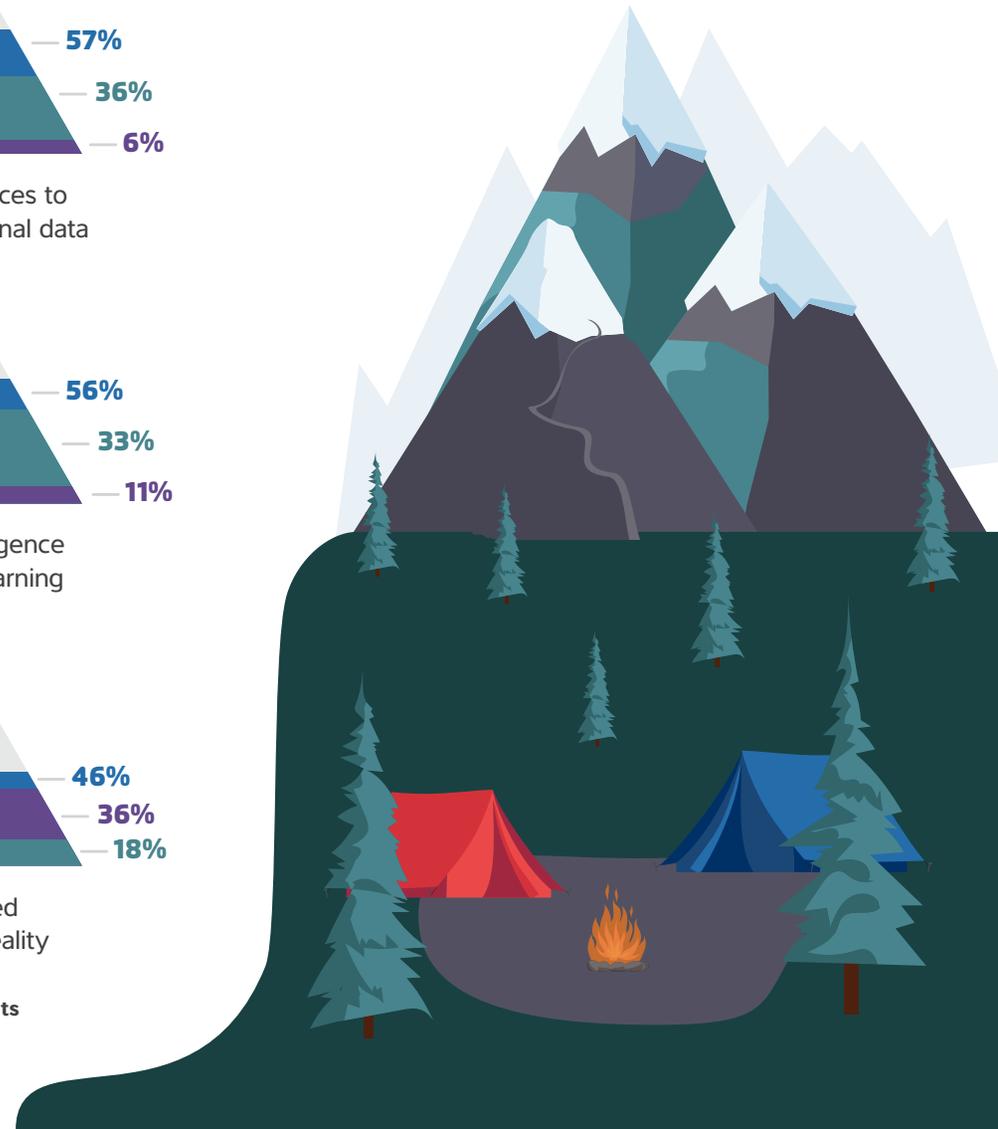
A Cloud Approach Improves Data Access for Decision Making

Organizations that utilize the cloud for better data access for decision making see improvements across the entire enterprise. When asked by IDC Research if data has made an impact on the speed and effectiveness of operational decision making in their organization, manufacturers surveyed said the following[8]:
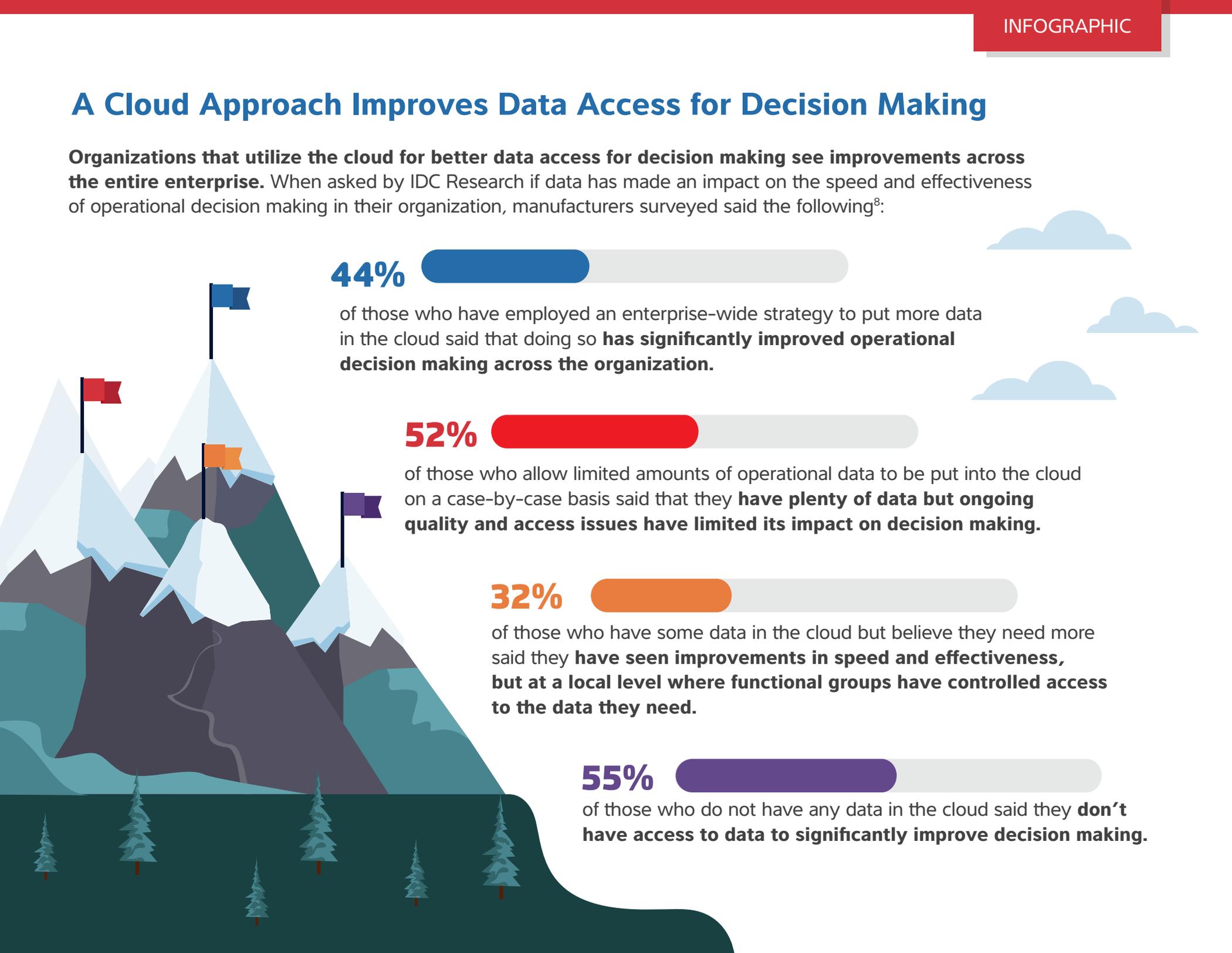
44%

of those who have employed an enterprise-wide strategy to put more data in the cloud said that doing so **has significantly improved operational decision making across the organization.**

52%

of those who allow limited amounts of operational data to be put into the cloud on a case-by-case basis said that they **have plenty of data but ongoing quality and access issues have limited its impact on decision making.**

32%

of those who have some data in the cloud but believe they need more said they **have seen improvements in speed and effectiveness, but at a local level where functional groups have controlled access to the data they need.**

55%

of those who do not have any data in the cloud said they **don't have access to data to significantly improve decision making.**

How Manufacturers Implement their Decision-Making Process

Manufacturers who are considered "Data Masters" are more likely to be collaborative and see improvements in communication. When asked how they would describe their organization's decision making process with respect to operations, manufacturers surveyed by IDC Research said the following[9]:

65%

of **data masters** said they have a very collaborative and inclusive decision-making process which includesbusiness partners and external resources.

50%

of **organizations with data access and quality issues** said they delegate decision making as far down the organization as possible and ensure everyone has the information needed to make decisions.

19%

of **data siloed organizations** said they have a traditional decision making process which follows the chain of command in the organization and relies heavily on internal expert knowledge and experience.

Less than 10%

of **data starved organizations** do not indicate any improvements to decision making processes.

Drive Digital Dominance with an Innovative & Adaptable MES Solution

Digital dominance becomes attainable when manufacturers utilize the right tools and solutions to move their operations forward.

An IIoT-enabled, digitalization-focused MES like Aegis' FactoryLogix offers real-time operational visibility and control, increased productivity, and renewed efficiency that meets ever-evolving customer and business demands. **With FactoryLogix, organizations can finally reach the digital summit.**

Learn more by checking out the webinar.

▶ **Watch the Webinar**

1, 2. IDC IoT Decision Maker Survey, July 2021

3. Aberdeen Research, June 2022

4, 5. Aberdeen Research, August 2022

6. IDC Future Enterprise Resiliency & Spending Survey (Wave 9), October 2021

7, 8, 9. IDC Future of Operations Survey, June 2021

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