

Early Adopters See Value in Computer Vision

Data Analysis & Research Results



Early Adopters See Value in Computer Vision

As the technology comes of age, early adopters increasingly see computer vision as an enabler of revenue growth and operational efficiency.

Today, businesses increasingly recognize the value and necessity of Artificial Intelligence (AI) transformation. According to IDG research, 65% of respondents have implemented AI somewhere in their organization and 86% expect investments in AI-enabled technology to increase in the next 12 months.^{1,2}

One of the fastest growing applications of AI is computer vision. The ability of today's systems to "see" and "recognize" objects is nothing less than transformative. IT and business leaders understand this fact:

An overwhelming 96% of respondents to a new IDG research study commissioned by Insight believe that computer vision has the potential to grow revenue, while 97% say these technologies will save their organization time and money.³

In fact, AI technologies such as computer vision are already helping organizations sharpen their business focus. As computer vision is increasingly embedded into digital systems, machines and devices, companies are finding new and more effective ways to tackle a myriad of tasks and processes — from medical diagnostics and energy systems to product assembly lines and store checkout lines. It sits at the heart of

smart factories, smart transportation grids and next-generation supply chains.

Together with the Internet of Things (IoT), computer vision provides real-time visibility that drives data-driven decision-making across numerous industries, including healthcare, manufacturing, retail/wholesale/distribution, transportation and utilities. By developing and training computer vision models to identify certain objects and events, pinpoint anomalies or monitor environments, organizations can streamline processes, improve safety, and unleash the next phase of automation and innovation.

Although relatively few businesses have deployed and operationalized computer vision at scale, early adopters are reporting significant benefits — including cost efficiencies, improved productivity, innovation gains and a competitive advantage.

Especially worth noting: Early adopters are more likely to expect accelerated Return on Investment (ROI) than all other respondents.

These organizations have gained a head start in putting computer vision to work. Although most remain in the early phases of research, adoption

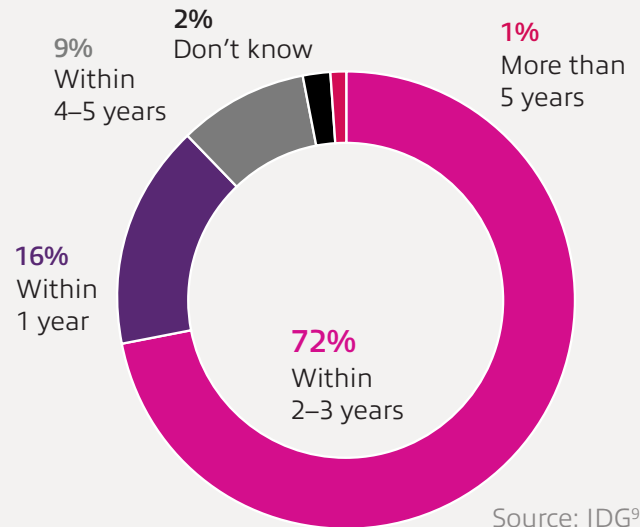
and implementation, it is vital to recognize that momentum is rapidly shifting from the early adoption phase to widespread use. This is because business and IT leaders have a high level of confidence in computer vision — and its long-term value.

Computer vision delivers value: An overview

To better understand the awareness, adoption and perceptions surrounding computer vision, Insight commissioned IDG to survey 200 business and IT leaders in healthcare, manufacturing, retail/wholesale/distribution, transportation and utilities. The results revealed:

- 65% of organizations have already deployed AI-enabled technology in one or more areas of their business and 86% expect to increase these investments over the next 12 months.^{1,2}
- 10% are using computer vision today, 37% have “definite” plans to implement the technology and 44% say they are actively investigating it. Among those enterprises using computer vision today, most report widespread use across their organizations.⁴
- 45% of respondents see opportunities for cost cutting and efficiency gains, while an equal percentage cite the technology as an innovation driver, including its ability to propel new products and services to market.⁵
- Transportation and healthcare are among the adoption leaders for computer vision: 20% of transportation and 13% of healthcare organizations are already using the technology.⁶
- 58% of retailers say they have definite plans to implement computer vision, followed by 38% of manufacturers and 35% of transportation and healthcare organizations.⁶
- 80% of energy industry respondents are most likely to strongly agree that computer vision has the potential to save time and money, followed by 58% in healthcare and manufacturing.⁷
- The top reasons for adopting computer vision include physical security (78%) and employee safety (71%).⁸

Figure 1.
Respondents Expect Fast ROI for Computer Vision



The results of the IDG survey indicate that business and IT leaders are knowledgeable about the outcomes computer vision can deliver, and they have a growing understanding of how it can benefit their organization. In fact, as Figure 1 illustrates, 88% expect to see an ROI within three years.

Use cases and specific requirements vary by industry.

Computer vision is a versatile technology. It can address an array of business tasks and challenges, including physical security, employee safety, product quality and customer experiences (see Figure 2). Projected investments and use cases vary by industry.

For example, a [global manufacturer](#) now relies on the technology to automatically check the tread depth for tires used on trucks in its delivery fleet. A [steel manufacturer](#) uses computer vision to prevent hazardous objects from being introduced during smelting processes. [Major retailers](#) are using these systems to improve food safety and keep shelves fully stocked.

As more companies recognize the value of computer vision, they are rapidly moving toward adoption. Similar to variations in use cases, the motivating factors for investment also vary by sector. The majority of manufacturing respondents (58%) seek to eliminate tedious, expensive or dangerous work. Improving

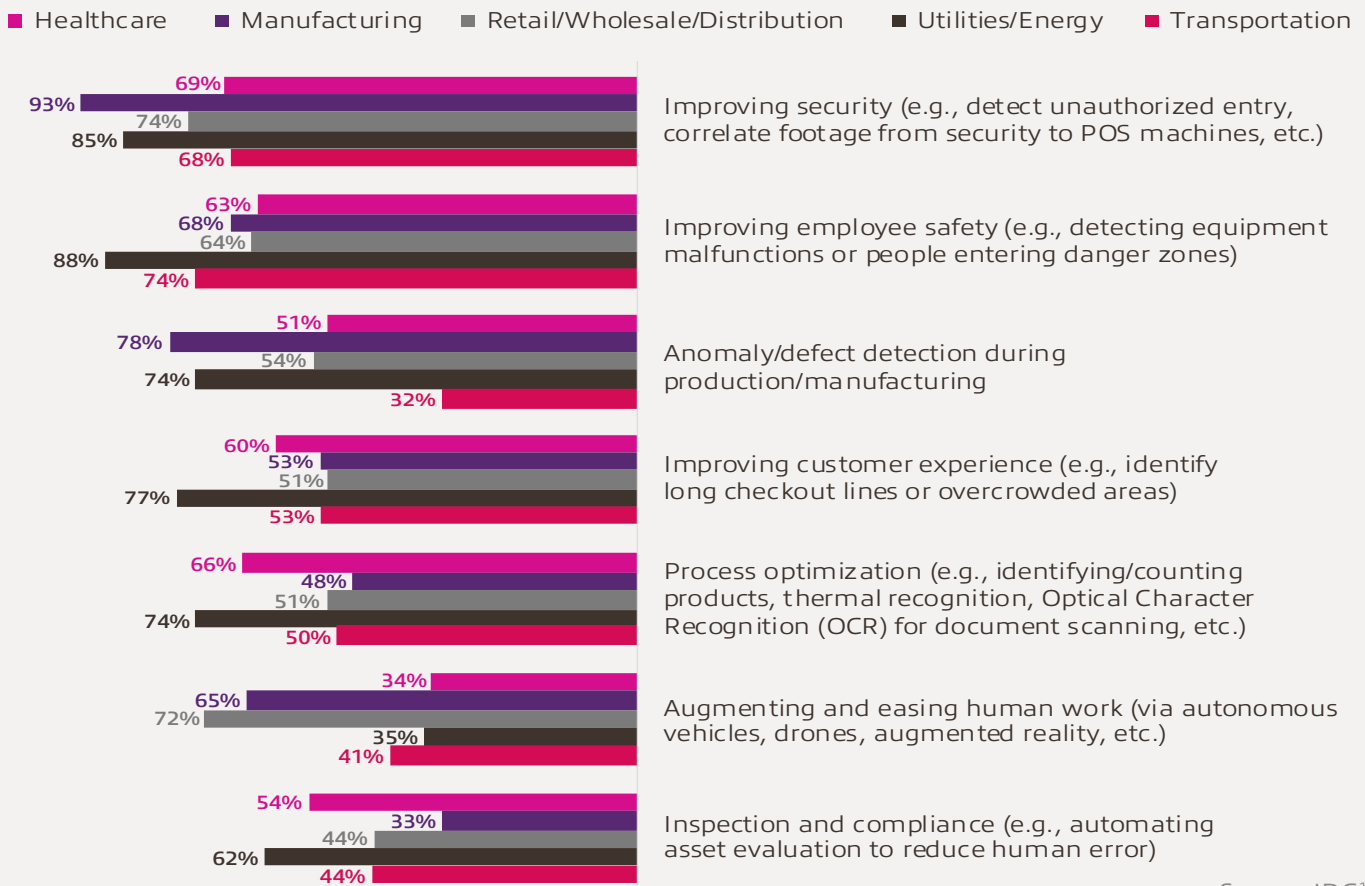
employee experiences is the primary driving factor in the transportation (47%) and healthcare (46%) sectors.¹⁰

Some respondents view computer vision through a more broad strategic lens. For instance, 53% in the energy and utility sector cite the technology as a way to stay ahead of the competition, and 41% from the

transportation sector agree.¹⁰

The energy (56%) and healthcare (51%) sectors also recognize that computer vision can aid in delivering new, more innovative products and services to their customers. Only 44% of retailers ranked this outcome as a priority, which indicates they may be missing an opportunity for growth and differentiation.¹⁰

Figure 2.
Plans for Computer Vision Vary by Industry



Source: IDG¹¹

ROI is expected for those that put the vision to work.

The first step in implementing computer vision technology is to identify where it can deliver the biggest benefits. The most valuable applications for retail and healthcare organizations, for example, will likely differ from those in manufacturing and energy. Understanding the most impactful outcomes is essential to getting the most out of the technology. Among the hurdles to overcome, the perception of risk and being ill-equipped for a computer vision project were common themes. The most frequently

reported concerns or obstacles to adoption include those relating to security, privacy and compliance (68%), data overload (53%), and a lack of knowledge or capacity to manage projects long-term (52%).¹²

However, early adopters are discovering that the rewards outweigh the challenges:

50% of organizations that have already implemented computer vision solutions have reported they expect to achieve ROI within just one year.¹²

These early adopters recognize the need for a long-term strategy, a comprehensive technology framework and an experienced partner to guide them through the process. Despite 59% of overall respondents citing high confidence in their in-house expertise to implement, operate and manage AI-enabled technologies, 70% or more say they are likely to require outside expertise to support their computer vision initiatives at each phase.^{14, 15}

Specifically, 90% say they will likely leverage third parties for strategy and project management expertise, 87% see value in tapping external expertise to aid in implementation and 84% expect that consultants can help get technologies into production.¹⁶

The most important factor for organizations evaluating a computer vision consultant or systems integrator is their ability to deliver end-to-end services; 70% cited this as a key differentiator in pursuing AI-related investments. In addition, 57% expressed desire for strong partnerships with OEMs, and 57% prefer to work with a partner that has a proven track record in their industry.¹⁷

Viewing this data broadly, it is apparent that forward-thinking organizations understand that computer vision will play a key role in advancing organizational capabilities and efficiencies. Ultimately, the technology will not only drive improvements in existing systems, but also introduce new and better ways to work.

Early adopters gain an early advantage.

Computer vision is delivering benefits today and will accelerate gains for businesses in the months and years ahead.

An overwhelming 90% of IDG survey respondents across industries agree that computer vision can drive value for their business.³ As a result, organizations across industries have an opportunity to establish an advantage by developing and operationalizing solutions before adoption shifts to the majority. Forward-thinking enterprises should regard computer vision with a wide lens and look for ways to weave it into their business and technology fabric accordingly.

As more organizations shift from investigating to investing in this technology, those that get ahead of the curve and put the technology into motion will capture ROI and gain a competitive edge. These organizations will be equipped to uncover new insights, optimize business-critical processes and get more out of the tools and technologies that define today's digital enterprise. Best case, these outcomes will empower greater innovation and disruption within their respective industries.

When you're ready to see how computer vision can transform business challenges into opportunities, Insight can help.

About Insight

Insight is a global leader in digital innovation — empowering organizations to build smarter, safer, more effective operations through intelligent technology solutions. The Fortune 500 company guides clients through every step of the digital transformation journey with a proven framework designed to maximize and accelerate time to business value. Recently named a strong performer among top computer vision consultancies by Forrester, Insight delivers the end-to-end expertise and support to help clients successfully adopt, operationalize and manage AI at scale.

To learn more, visit: insight.com/computer-vision



Sources

- ¹ Computer Vision: Adoption and Application. Slide 8. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ² Computer Vision: Adoption and Application. Slide 10. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ³ Computer Vision: Adoption and Application. Slide 17. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁴ Computer Vision: Adoption and Application. Slide 11. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁵ Computer Vision: Adoption and Application. Slide 14. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁶ Computer Vision: Adoption and Application. Slide 12. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁷ Computer Vision: Adoption and Application. Slide 19. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁸ Computer Vision: Adoption and Application. Slide 20. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ⁹ Computer Vision: Adoption and Application. Slide 28. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹⁰ Computer Vision: Adoption and Application. Slide 16. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹¹ Computer Vision: Adoption and Application. Slide 21. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹² Computer Vision: Adoption and Application. Slide 30. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹³ Computer Vision: Adoption and Application. Slide 29. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹⁴ Computer Vision: Adoption and Application. Slide 33. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹⁵ Computer Vision: Adoption and Application. Slide 36. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹⁶ Computer Vision: Adoption and Application. Slide 35. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.
- ¹⁷ Computer Vision: Adoption and Application. Slide 37. (May 2021) Marketpulse Research by IDG Research Services, commissioned by Insight.



MARKETPULSE RESEARCH:

Computer Vision: Adoption and Application

On Behalf of Insight • May 2021



Sample

Method and Objectives

Field Work This survey was fielded in the U.S between April 19, 2021 and May 3, 2021.

Total Respondents 200 qualified

Data collection Online questionnaire

Length 12 questions (excluding screeners and demographics)

Audience: Respondents were qualified as follows:

- Employed in one of the following vertical industries: Healthcare, Manufacturing, Retail/Wholesale/Distribution, Transportation or Utilities
- Employed in Executive management or in a management role in one of the following areas: IT/Technology, Operations, Engineering, Production or R&D
- Employed at enterprises with 1,500 or more employees
- Organization is piloting, using, or considering AI/Al-enabled technology

Research objectives This survey was developed to understand awareness, adoption, and perceptions of Computer Vision technology. We evaluate motivators for considering Computer Vision, potential use cases for the technology, expectations around timing for ROI and obstacles to adoption.

We determine the likelihood that enterprises will work with an external consultant or SI to implement, operationalize and/or manage AI-enabled technology. Lastly, we uncover the technology partner attributes that would increase confidence to pursue further AI investments.

Respondent Profile

Job Title

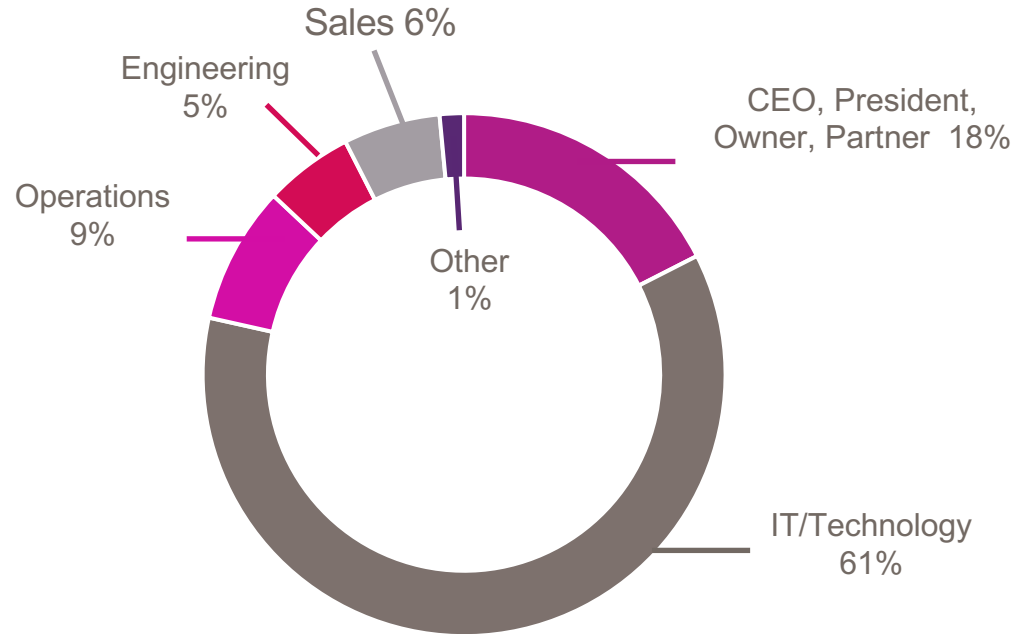
CEO, President, Owner, Partner	18%
C-level (CIO, CFO, COO, CMO, etc.)	31%
Executive VP, Senior VP, General Manager	11%
Vice President	1%
Director	14%
Manager	12%

Company Size

20,000 or more	21%
10,000 - 19,999	5%
5,000 - 9,999	26%
2,500 - 4,999	32%
1,500 - 2,499	16%

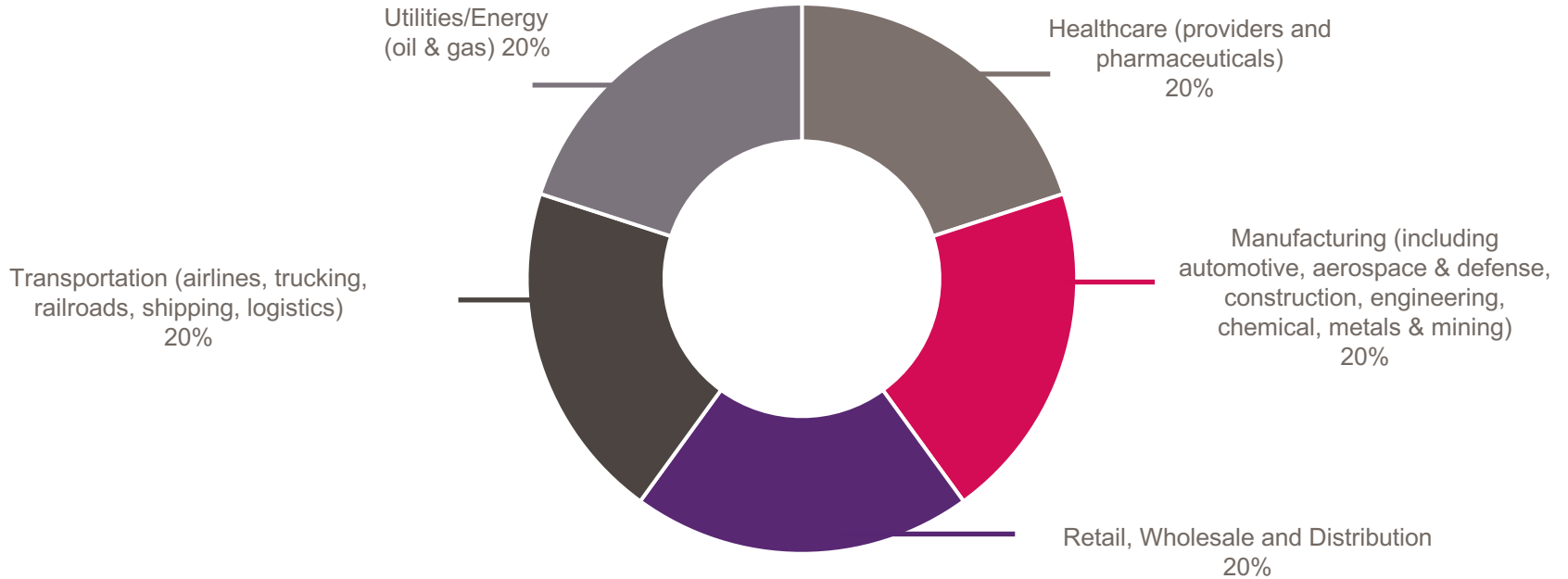
Average: 7,569

Job Function



Respondent Profile (continued)

Primary Industry



Summary of Findings

- **More than six in ten organizations (65%)** have deployed AI-enabled technology in one or more areas of the business. Respondents in manufacturing and retail/wholesale/distribution are most likely to report AI is currently deployed.
- **Most organizations (86%) expect increased investment** in AI-enabled technology over the next 12 months.
- **While just 10% of organizations are using computer vision today, 37% have definite plans to implement and 44% report they are investigating the technology.** Nearly 6 in 10 respondents at retail/wholesale/distribution organizations (58%) report definite plans to implement computer vision.
- **Efficiency/cost reduction (45%) and opportunities for innovation (45%) are top drivers for computer vision investments.** The elimination of tedious, expensive, or dangerous work is motivating computer vision investments at manufacturing (58%) and retail (49%) organizations.
- **More than 9 in 10 respondents agree that computer vision has the potential to grow revenue (96%) and/or save time and money (97%).** Respondents in the energy industry are the most likely to strongly agree with these statements.
- **Organizations cite improvements in physical security (78%) and employee safety (71%) as top objectives behind computer vision investments.** Potential use cases for computer vision technology vary by industry. Among the handful of respondents with low awareness of computer vision, augmentation of human work and process optimization are compelling potential benefits.
- **Most respondents (72%) would expect to see a return on computer vision investments within 2-3 years.** This is similar across industries.

Summary of Findings

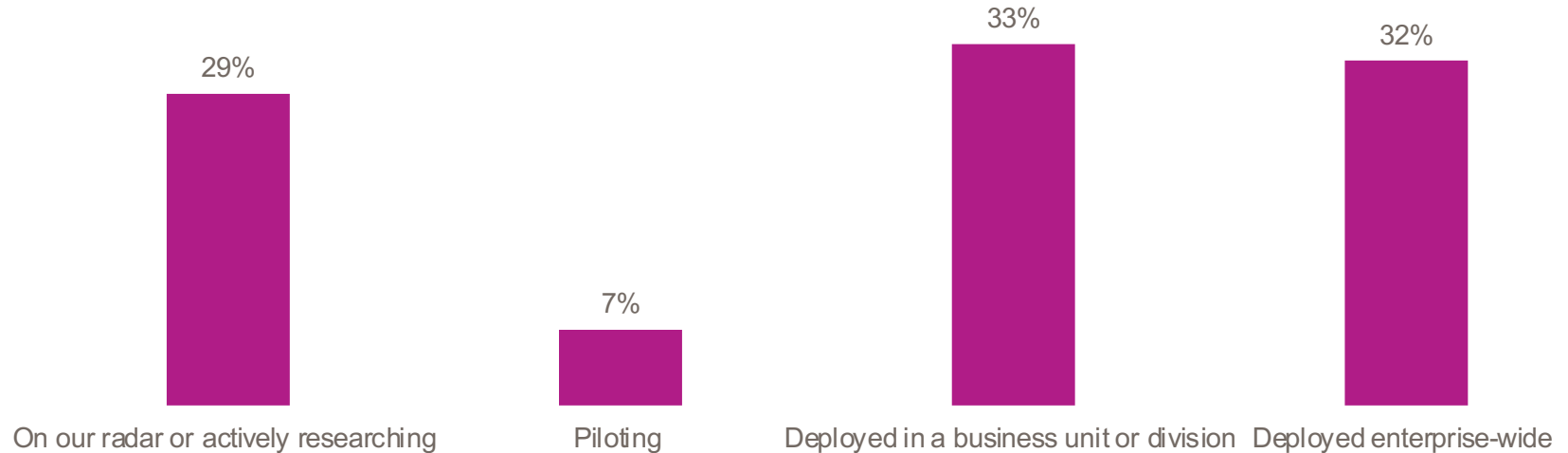
- **Security/privacy (68%) tops the list of concerns about computer vision technology.** Those in the manufacturing and retail industries are the most likely to cite concerns regarding security, data overload and the timeframe to recognize ROI.
- **Over one-half (59%) have high confidence in their in-house expertise to implement, operationalize and manage AI-enabled technology.** Those in the manufacturing industry report the lowest confidence levels (26% extremely or very confident).
- **Despite confidence in in-house skills, respondents report a high likelihood to leverage external consultants/SIs to support AI initiatives,** with **70% or more** citing a high likelihood to tap into external expertise at each phase. The high likelihood to access third-party expertise to support AI initiatives is consistent across industries.
- **The ability to provide end-to-end services (70%) is the top attribute respondents seek in a technology partner to help them pursue AI initiatives.** Those in the manufacturing vertical also prioritize providers who partner with trusted OEMs and have a proven track record in their industry, while access to comprehensive workshops and training is a must among those in the healthcare vertical.



Results

More than 60% of organizations have deployed AI-enabled technology in one or more areas of the business.

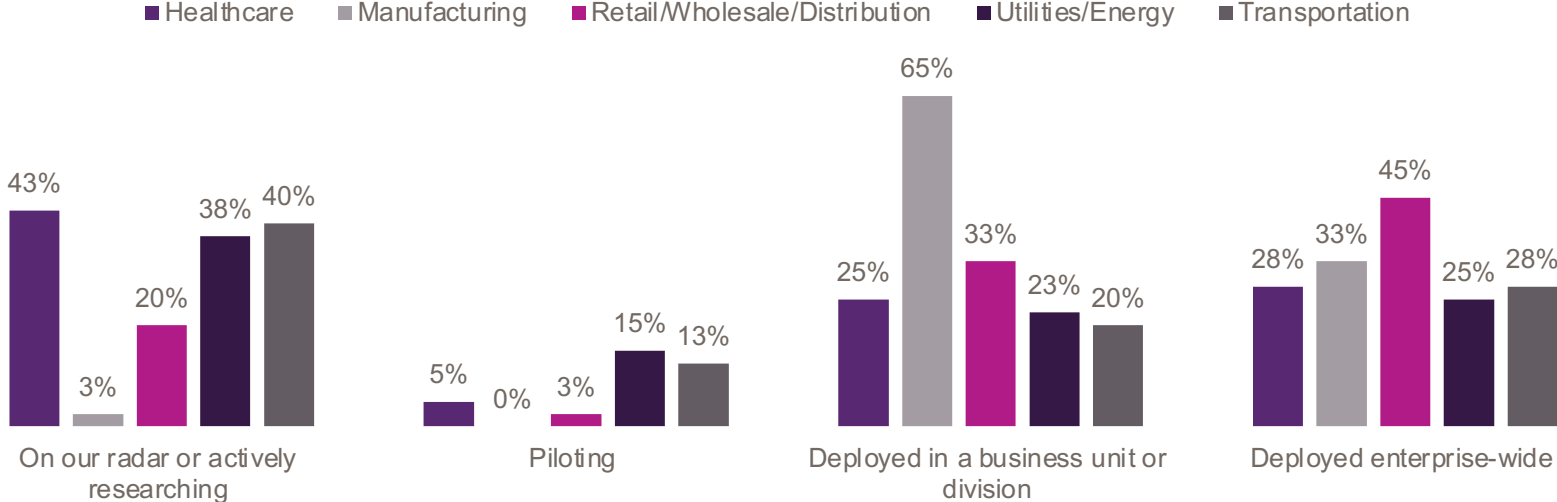
Adoption of AI-enabled Technology



1. How would you describe your organizations adoption of Artificial Intelligence (AI) or AI-enabled technology as part of your overall technology strategy?

Respondents in manufacturing and retail/wholesale/ distribution are most likely to report AI is currently deployed.

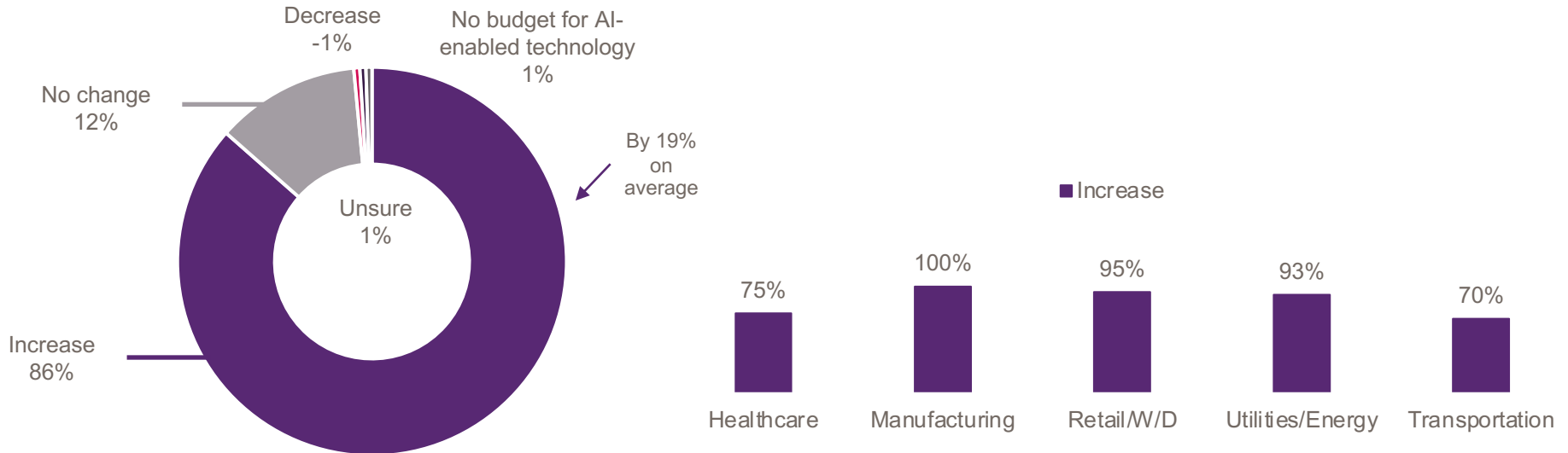
Adoption of AI-enabled Technology



1. How would you describe your organizations adoption of Artificial Intelligence (AI) or AI-enabled technology as part of your overall technology strategy?

Most organizations (86%) expect increased investment in AI-enabled technology over the next 12 months.

Expected Change in Budget for AI-enabled Technology

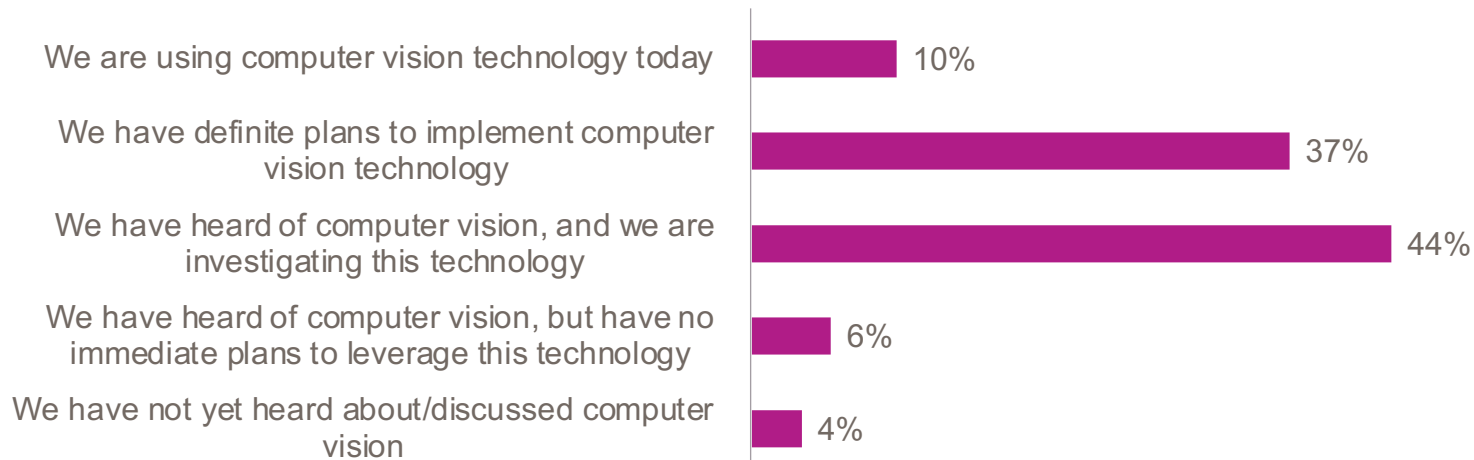


2. How do you expect your organization's budget for AI-enabled technology to change over the next 12 months versus the prior year?

While just 10% of organizations are using computer vision today, 37% have definite plans to implement and 44% report they are investigating the technology.

Computer Vision
(CV) is a type of AI technology that allows computers to understand and label images. Using digital images from cameras and videos and deep learning models, machines can accurately identify and classify objects — and then react to what they “see.”

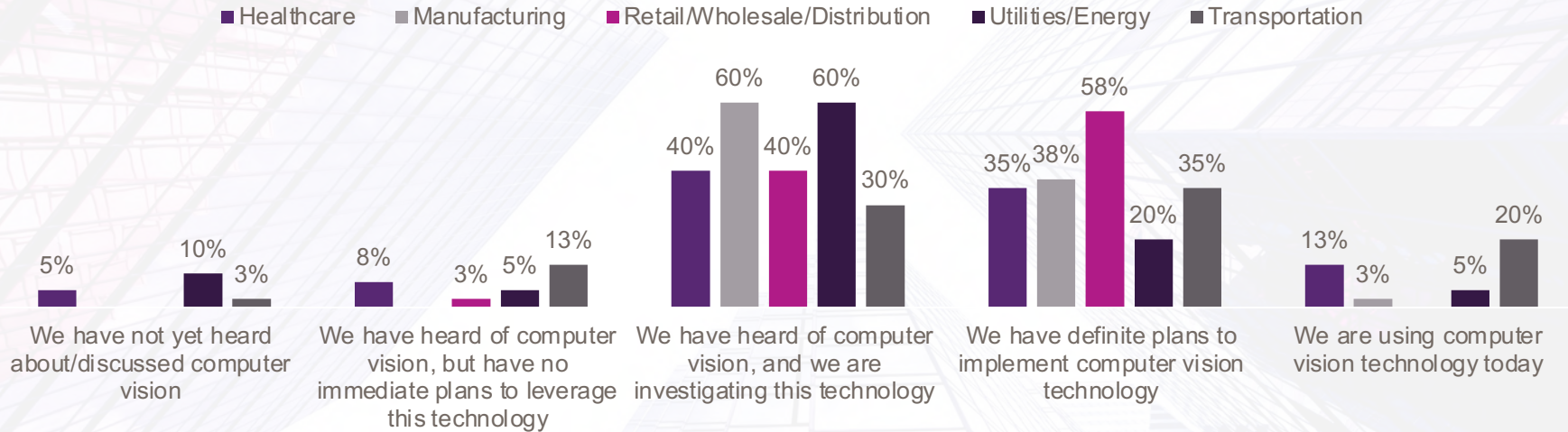
Awareness/Adoption of Computer Vision Technology



3. How would you describe your organization's awareness of and/or adoption of computer vision technology?

Nearly 6 in 10 respondents at retail/wholesale/distribution organizations report definite plans to implement computer vision.

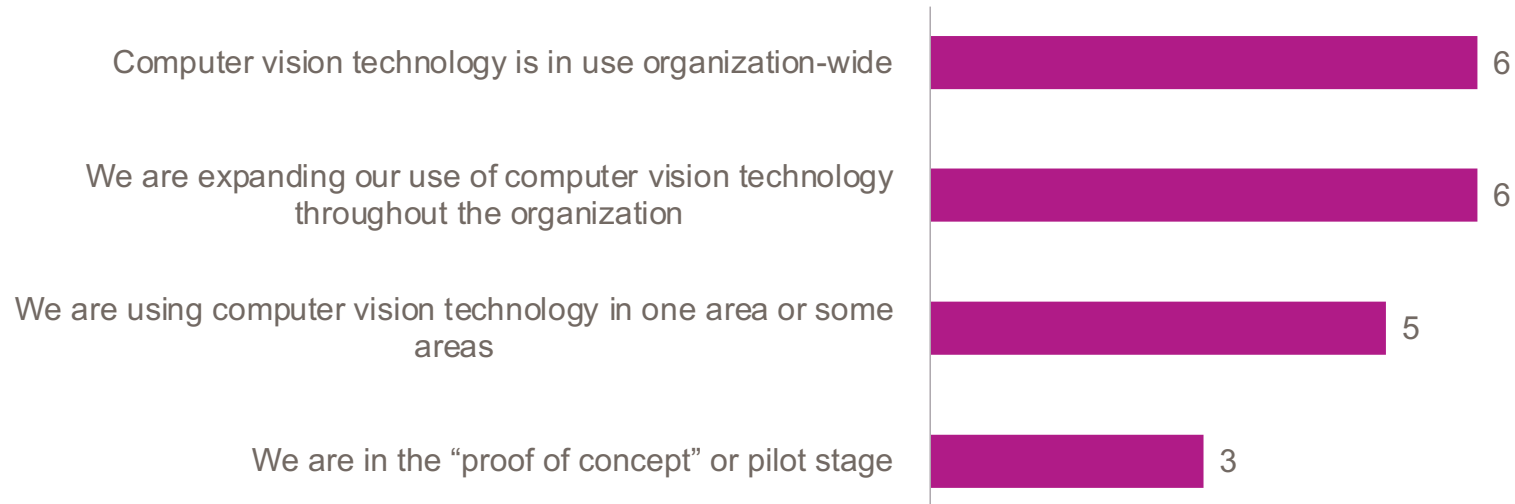
Awareness/Adoption of Computer Vision Technology



3. How would you describe your organizations adoption of Artificial Intelligence (AI) or AI-enabled technology as part of your overall technology strategy?

Among the small percentage using computer vision today, most report widespread use in their organizations.

Use of Computer Vision Today (Number of responses)
(among those using Computer Vision, n=20)



4. How would you describe your organization's level of experience with computer vision technology to-date?

Efficiency/cost reduction and opportunities for innovation are top drivers for computer vision investments.

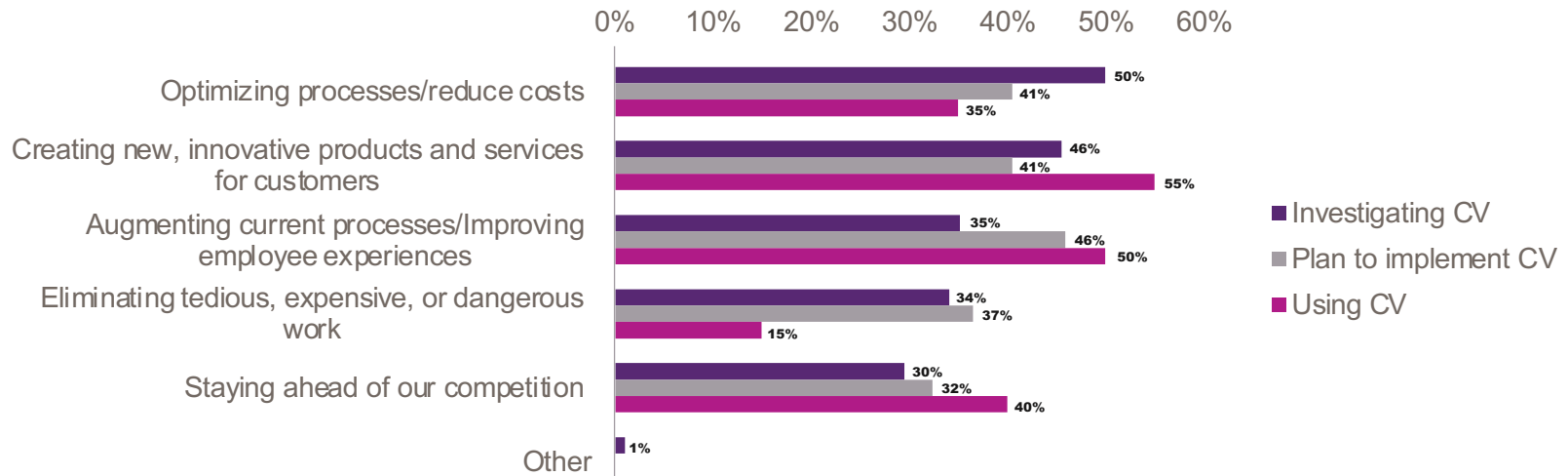
Primary Motivators for Interest in and/or Use of Computer Vision *(among those investigating, planning to implement or using computer vision, n=182)*



5. What are the primary motivators for your organization's interest in and/or use of computer vision technology? (Please select up to two.)

Cost optimization is driving interest in CV among those investigating, while those using the technology are motivated by innovation and process augmentation.

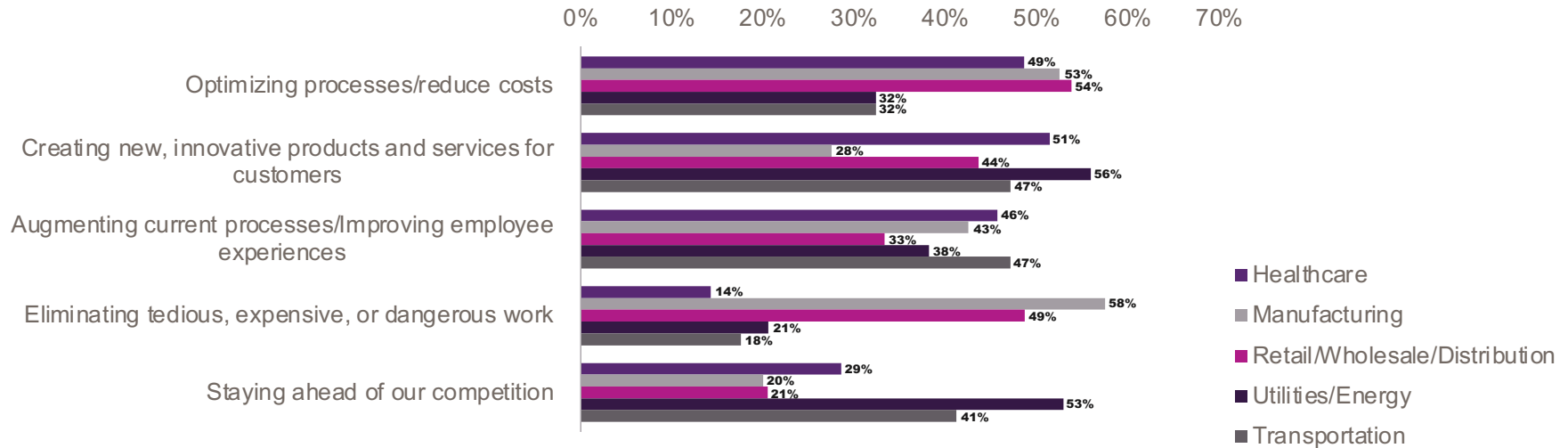
Primary Motivators for Interest in and/or Use of Computer Vision (among those investigating, planning to implement or using computer vision, n=182)



5. What are the primary motivators for your organization's interest in and/or use of computer vision technology? (Please select up to two.)

The elimination of tedious, expensive or dangerous work is motivating computer vision investments at manufacturing and retail organizations.

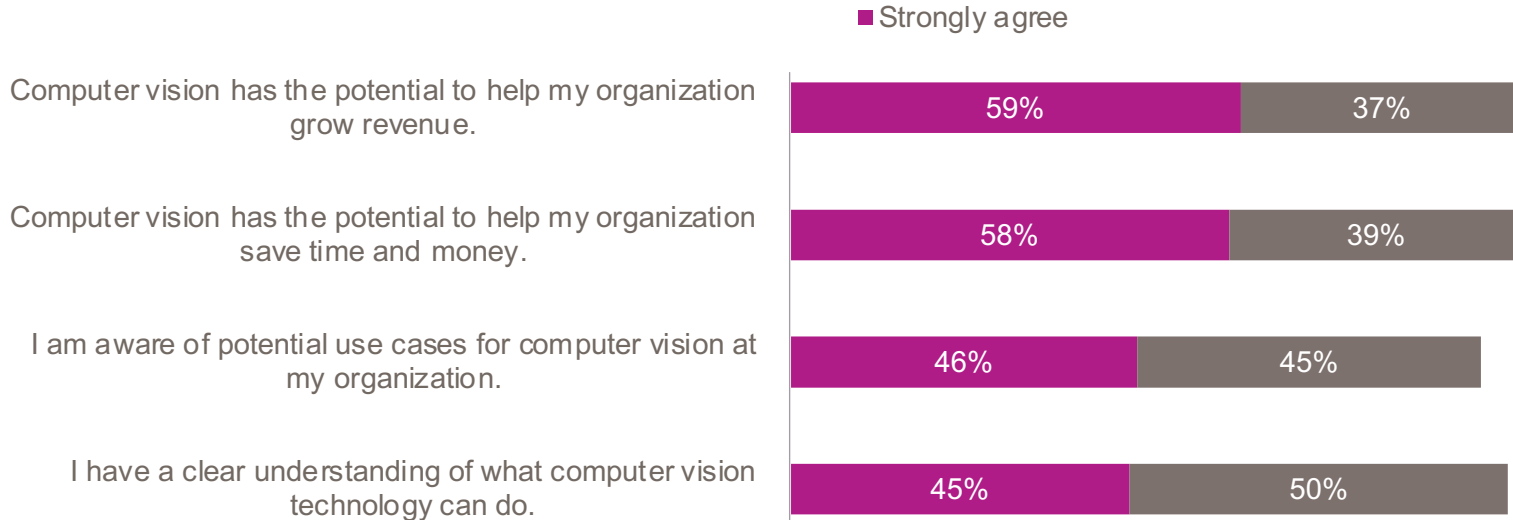
Primary Motivators for Interest in and/or Use of Computer Vision
(among those investigating, planning to implement or using computer vision, n=182)



5. What are the primary motivators for your organization's interest in and/or use of computer vision technology? (Please select up to two.)

More than 9 in 10 respondents agree that computer vision has the potential to grow revenue and/or save time and money.

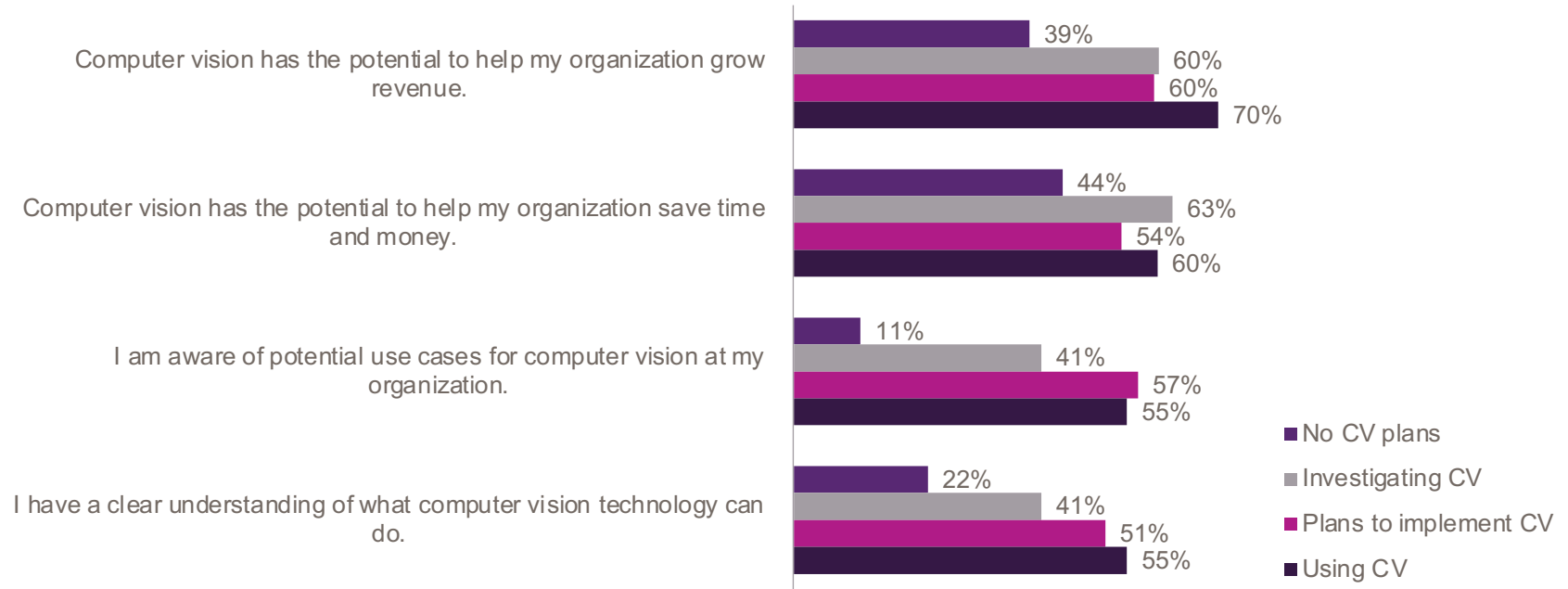
Agreement With Statements About Computer Vision



6. Based on what you know about computer vision, please rate your level of agreement with the following statements:

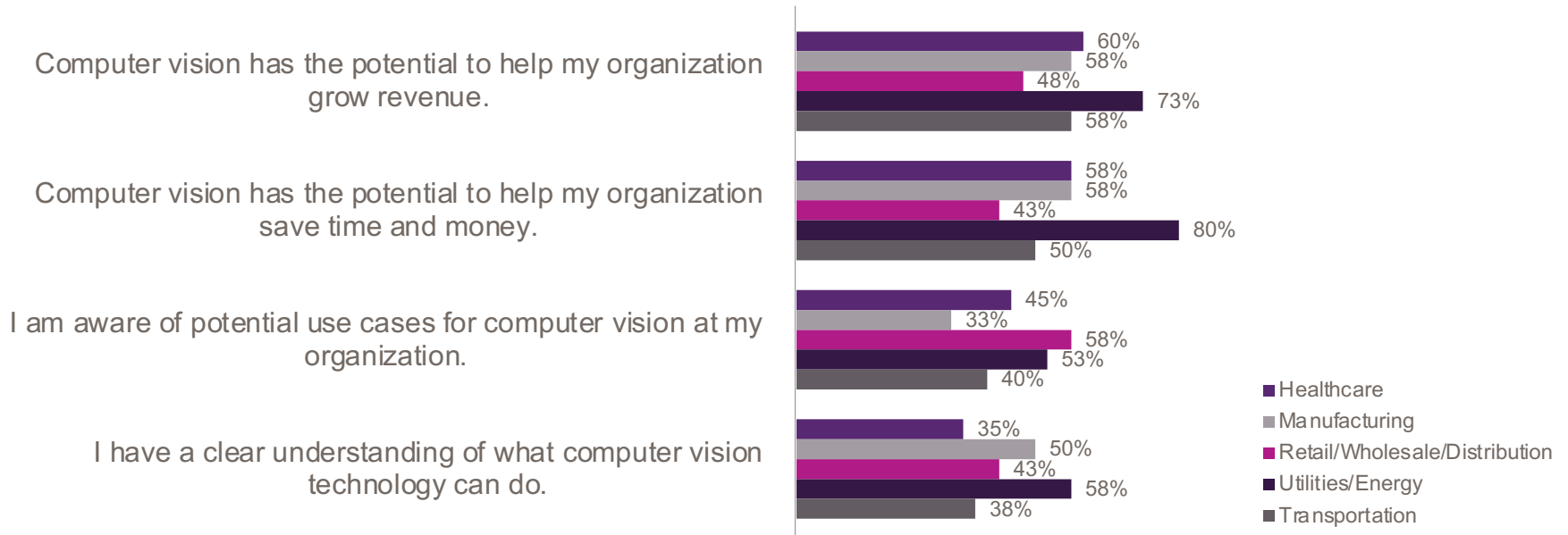
Those already using computer vision are the most likely to strongly agree that the technology has the potential to help grow revenue.

Agreement With Statements About Computer Vision (% “Strongly Agree”)



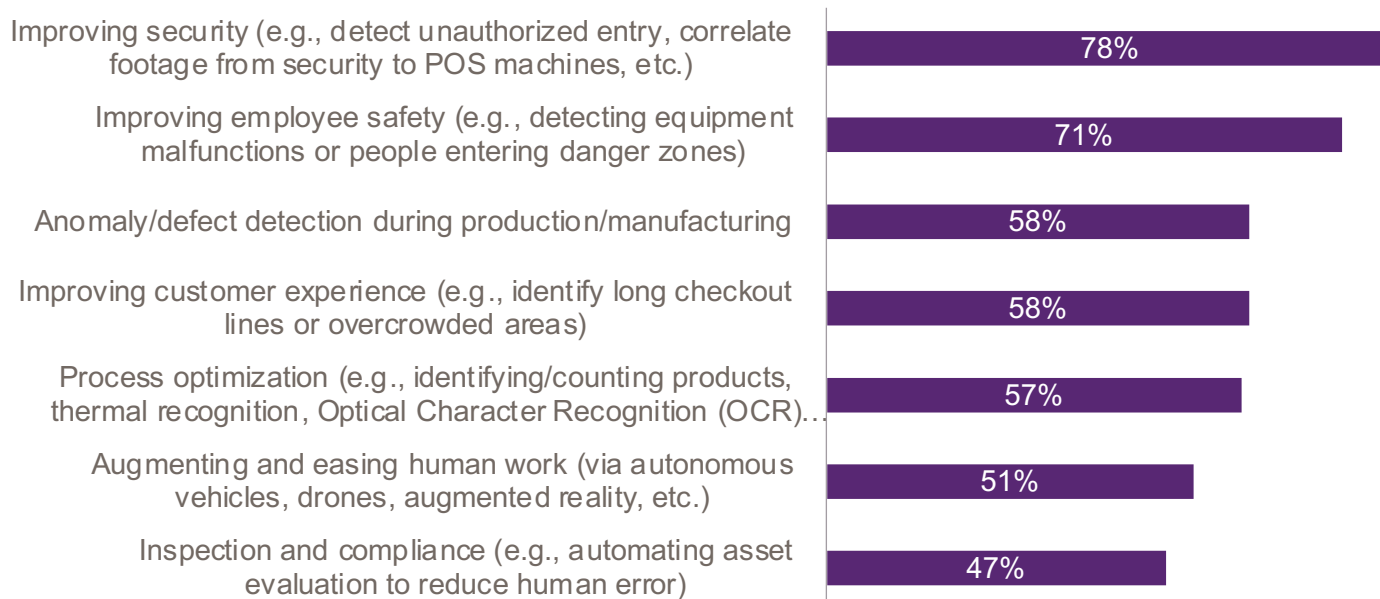
Respondents in the energy industry are the most likely to strongly agree that computer vision has the potential to save time and money.

Agreement With Statements About Computer Vision (% “Strongly Agree”)



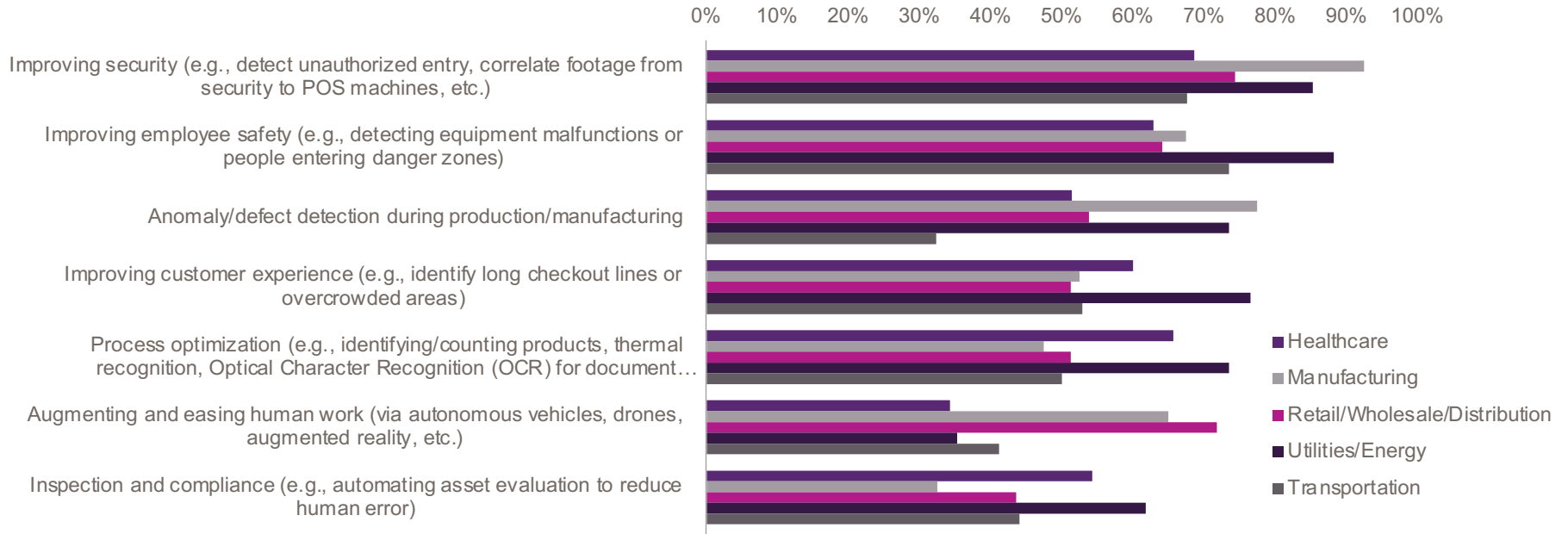
Organizations cite improvements in security and employee safety as top objectives behind computer vision investments.

Ways in Which Organizations are Using/Planning to Use Computer Vision
(among those investigating, planning to implement or using computer vision, n=182)

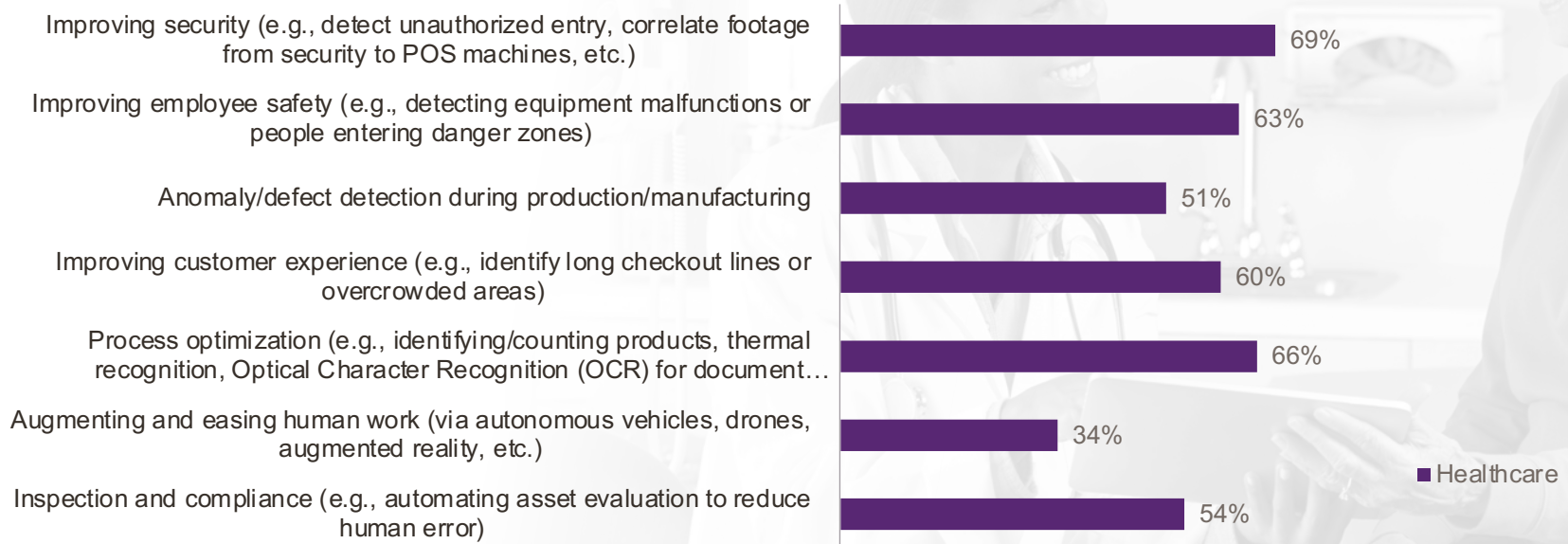


Potential use cases for computer vision technology vary by industry.

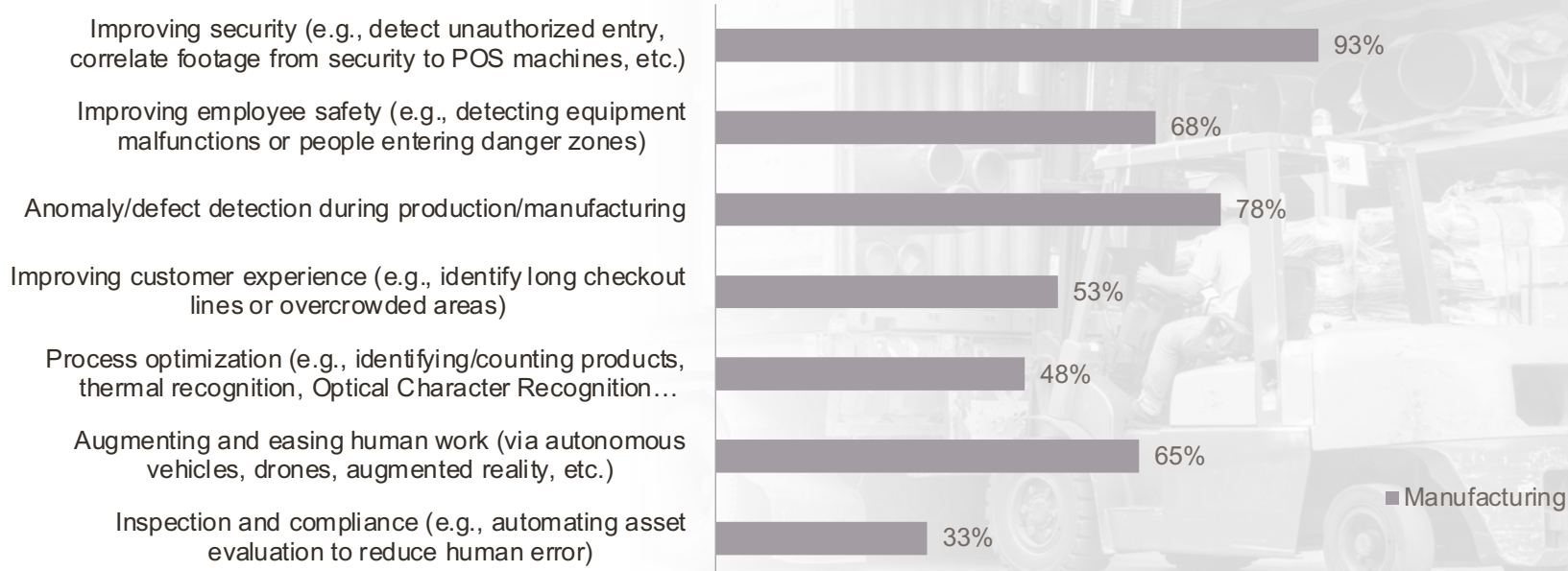
Ways in Which Organizations are Using/Planning to Use Computer Vision (among those investigating, planning to implement or using computer vision, n=182)



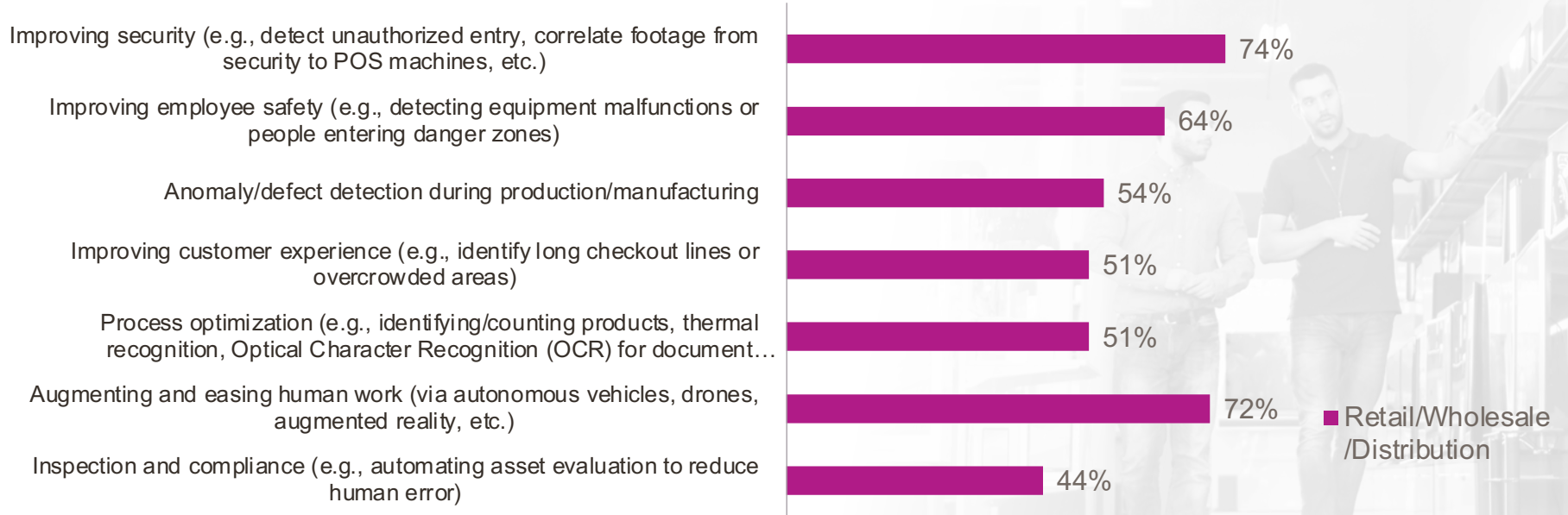
Intended use cases for computer vision in healthcare



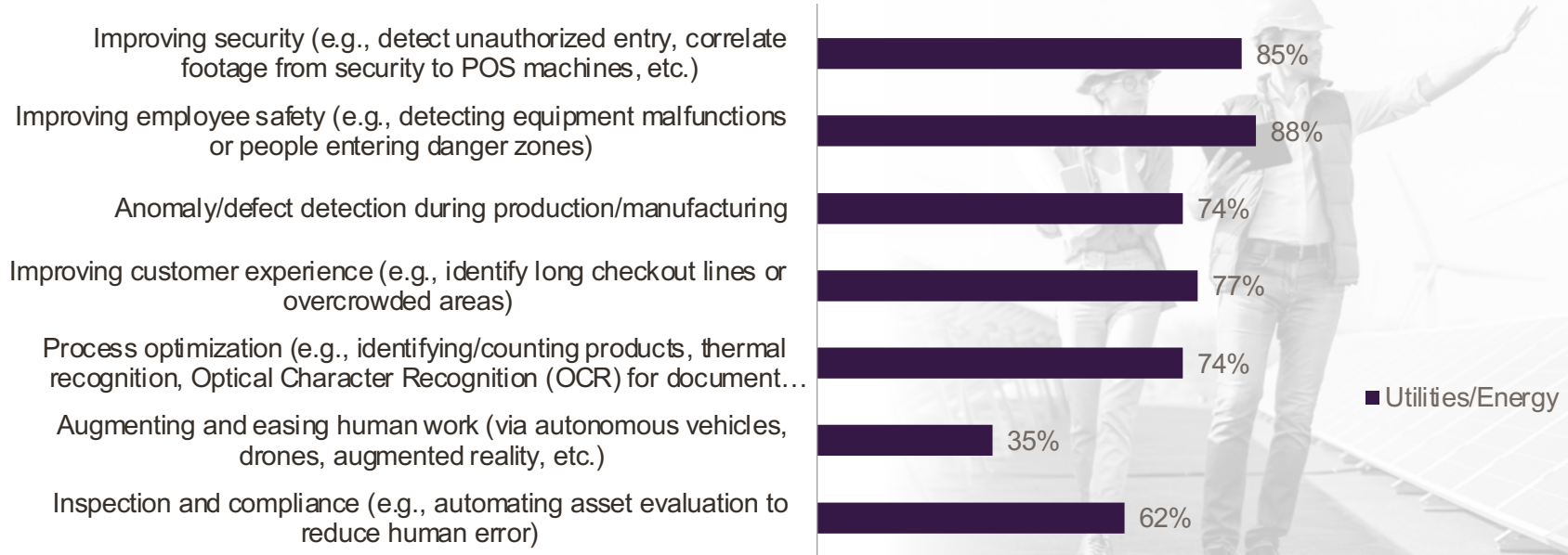
Intended use cases for computer vision in manufacturing



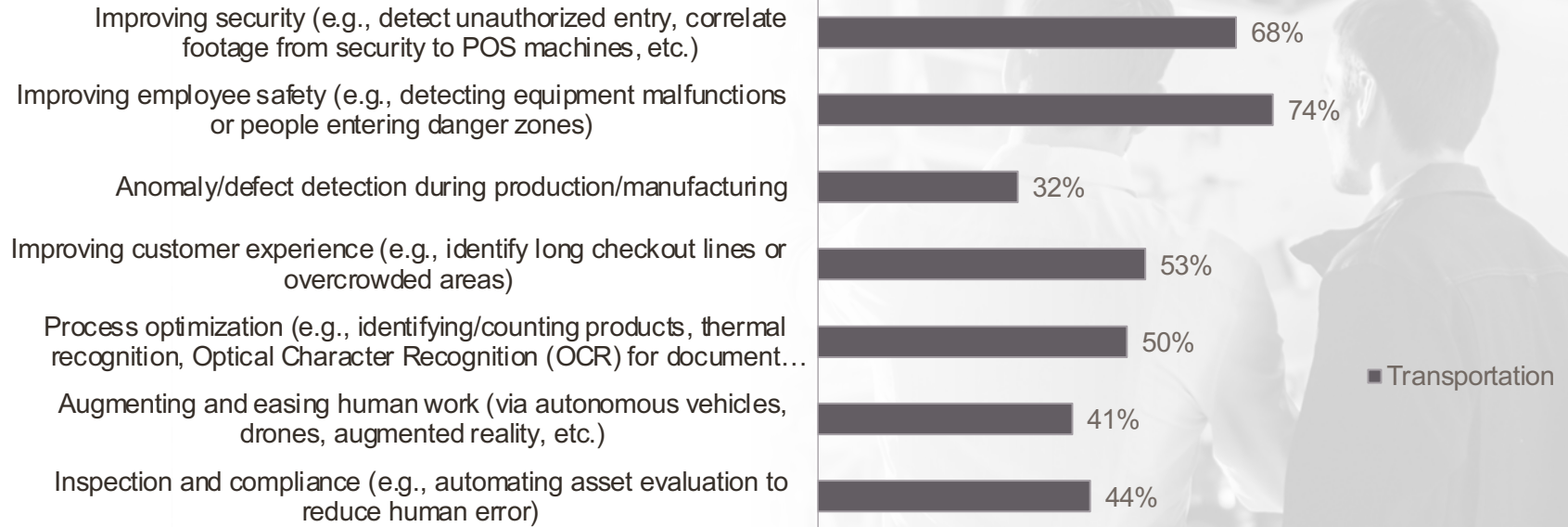
Intended use cases for computer vision in retail



Intended use cases for computer vision in utilities/energy

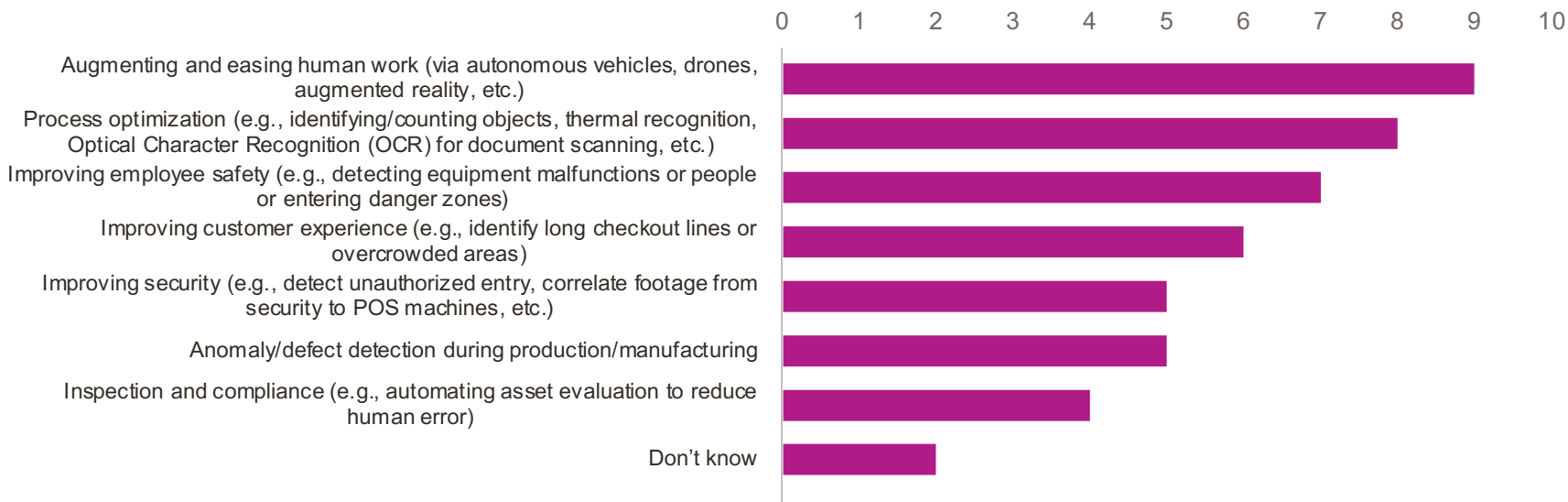


Intended use cases for computer vision in transportation



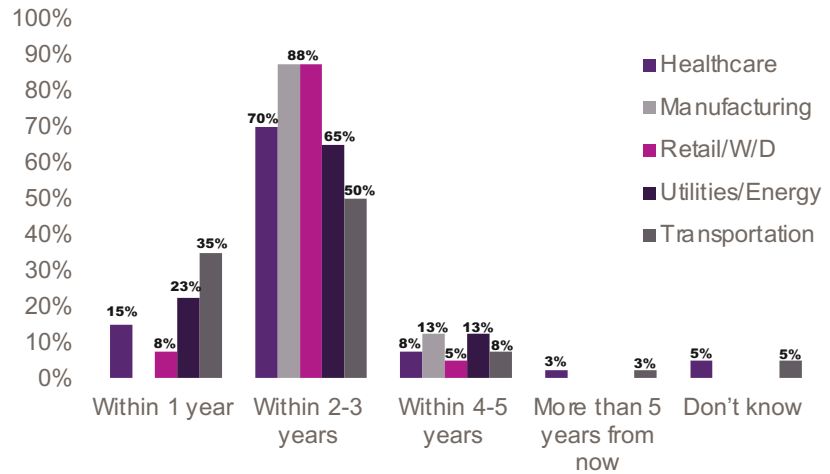
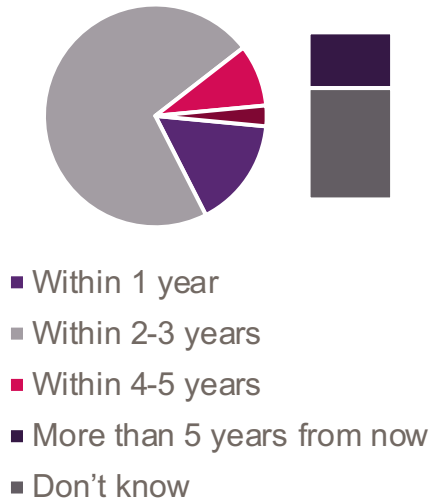
Among those with low awareness of computer vision, augmentation of human work and process optimization are compelling potential benefits.

Most Appealing Potential Use Cases for Computer Vision (Number of responses)
(Among those who have not discussed/Have no computer vision plans, n= 18)



Most respondents (72%) would expect to see a return on computer vision investments within 2-3 years.

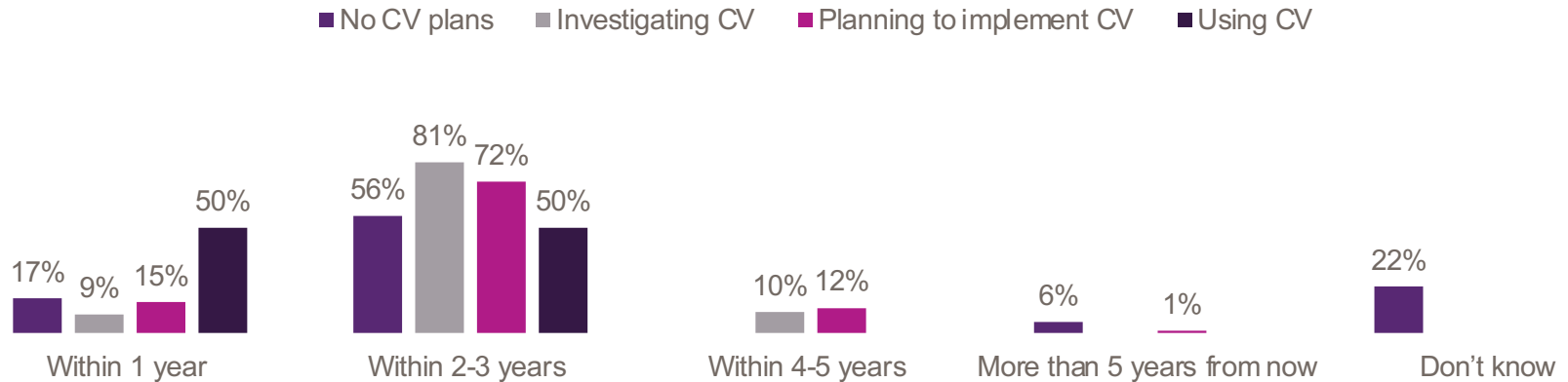
Expected Timeframe for ROI on Investments in Computer Vision



9. In order for computer vision technology to be a viable investment for your organization, when would you expect to see a return on your investment?

Though the sample size is small, those already using CV show a propensity to expect a quicker time to ROI.

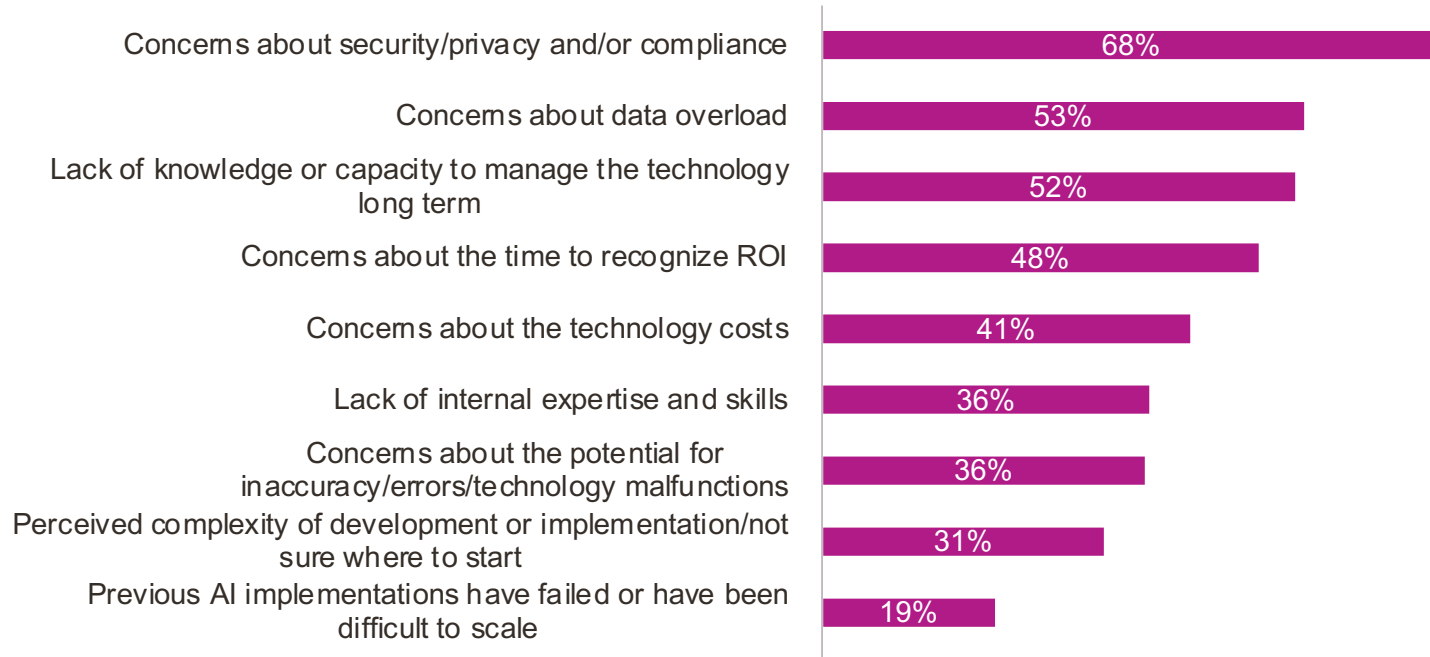
Expected Timeframe for ROI on Investments in Computer Vision



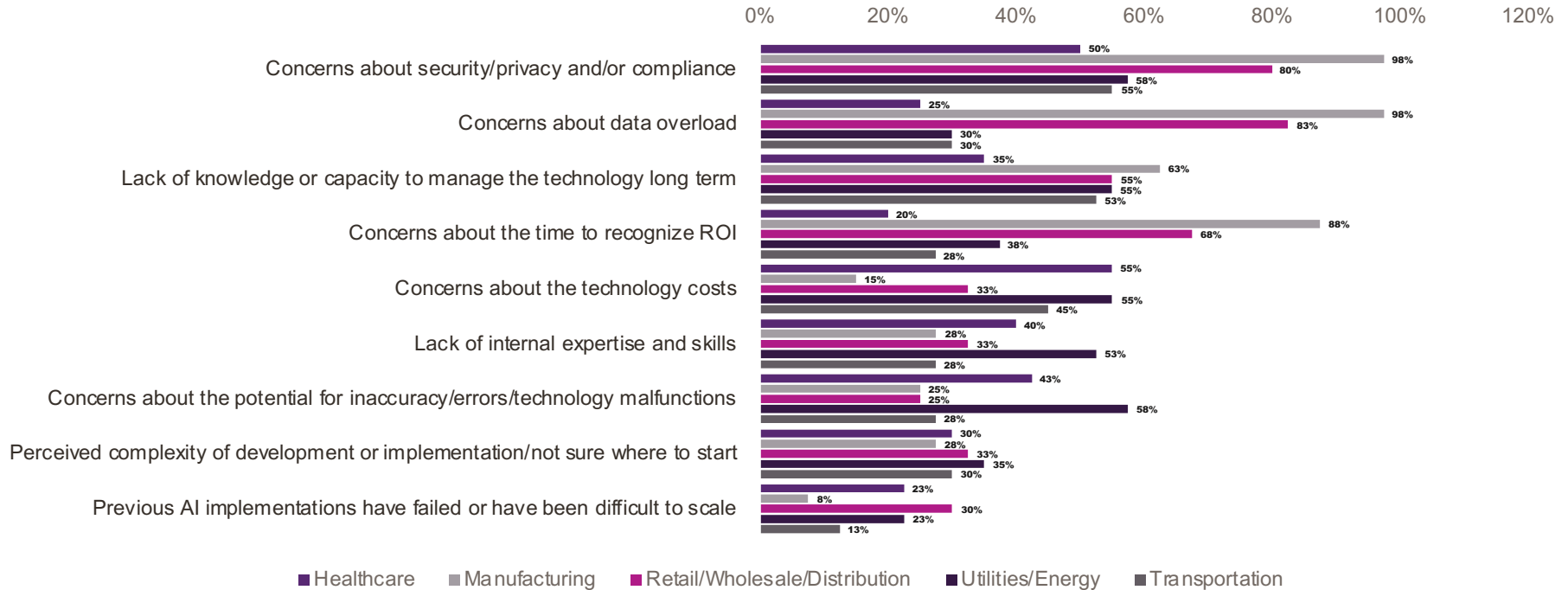
9. In order for computer vision technology to be a viable investment for your organization, when would you expect to see a return on your investment?

Security/privacy tops the list of concerns about computer vision technology.

Top Concerns or Challenges Inhibiting Investment in Computer Vision

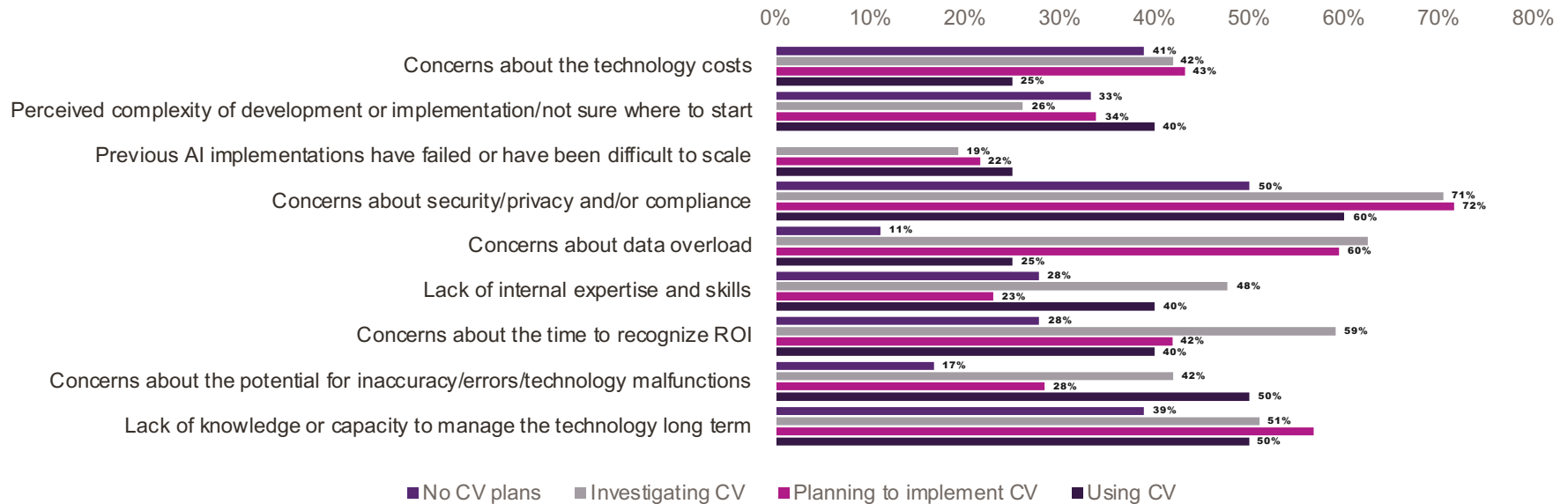


Those in the manufacturing and retail industries are the most likely to cite concerns regarding security, data overload and the timeframe to recognize ROI.



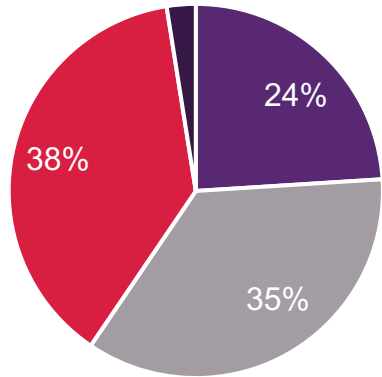
Respondents who are investigating computer vision are more likely than others to be concerned about time to recognize ROI.

Top Concerns or Challenges Inhibiting Investment in Computer Vision

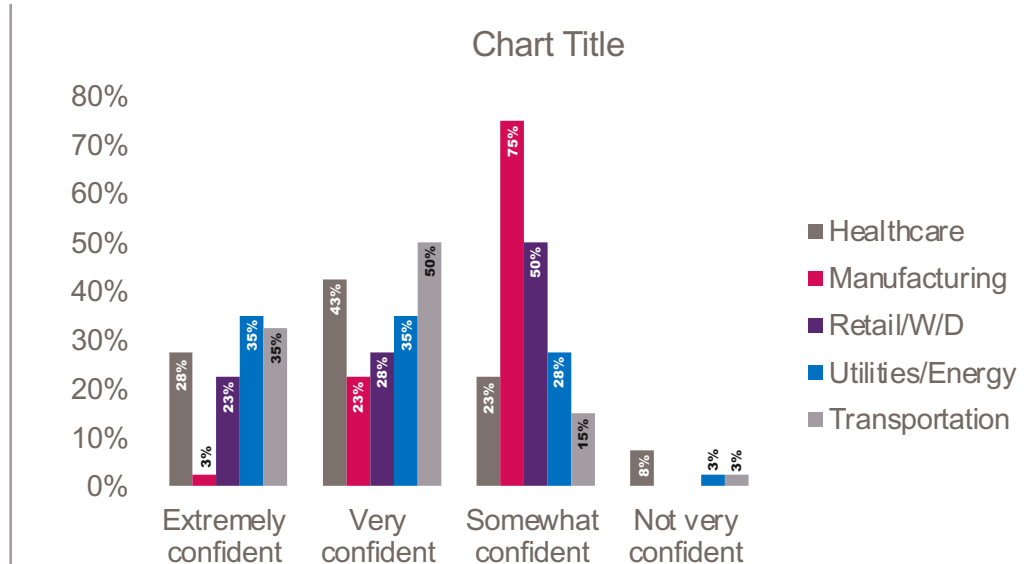


More than half (59%) have high confidence in their in-house expertise to implement, operationalize and manage AI-enabled technology.

Confidence in In-house Skills and Expertise to Implement, Operationalize and Manage AI-enabled Technology



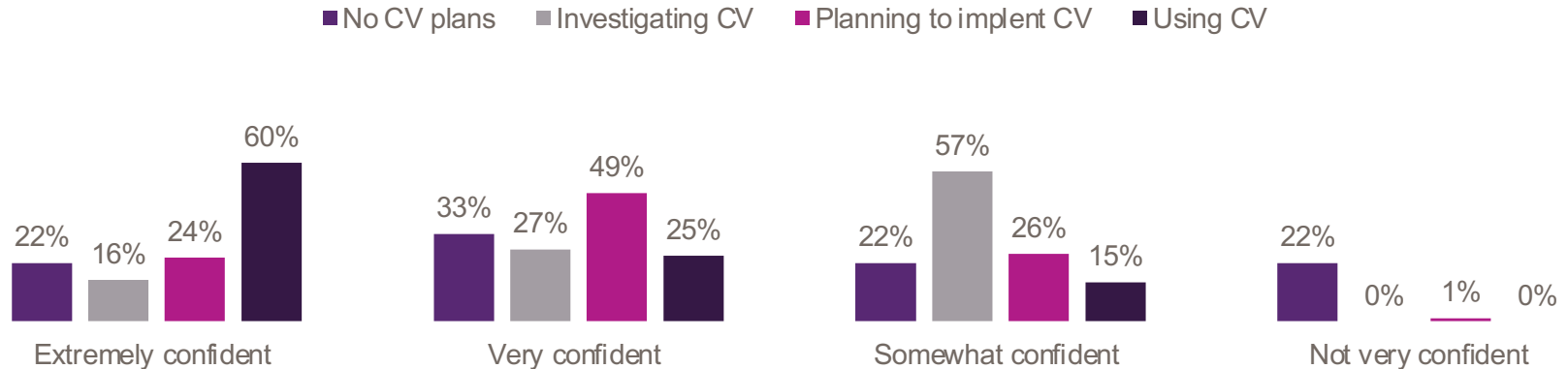
Extremely confident
 Somewhat confident
 Very confident
 Not very confident



11. How confident are you that your organization has the skills and expertise in-house to implement, operationalize and manage AI-enabled technology?

Confidence in internal skills to implement, operationalize and manage AI-enabled technology appears to grow as enterprises move further along the adoption curve.

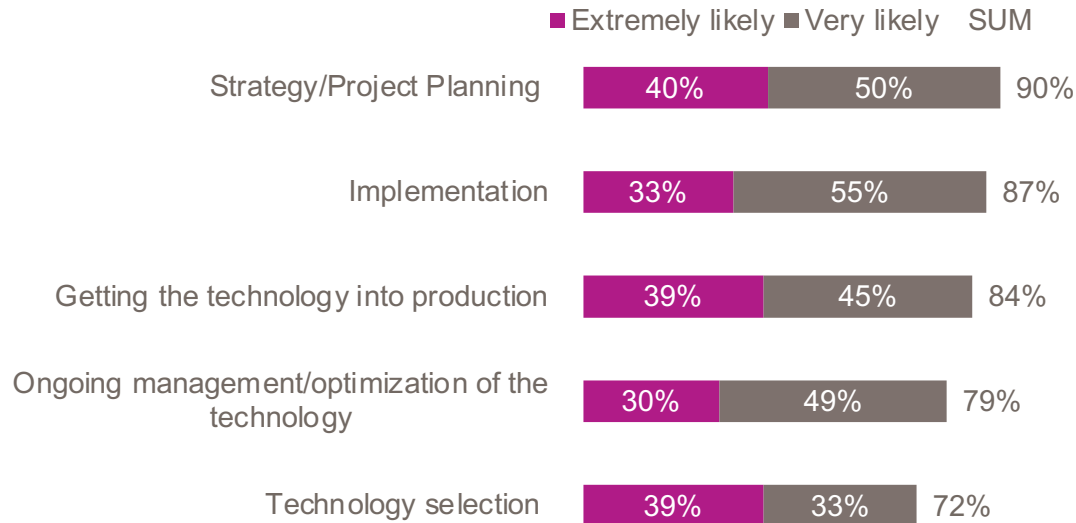
Confidence in In-house Skills and Expertise to Implement, Operationalize and Manage AI-enabled Technology



11. How confident are you that your organization has the skills and expertise in-house to implement, operationalize and manage AI-enabled technology?

Despite confidence in in-house skills, respondents report a high likelihood to leverage external consultants/SIs to support AI initiatives.

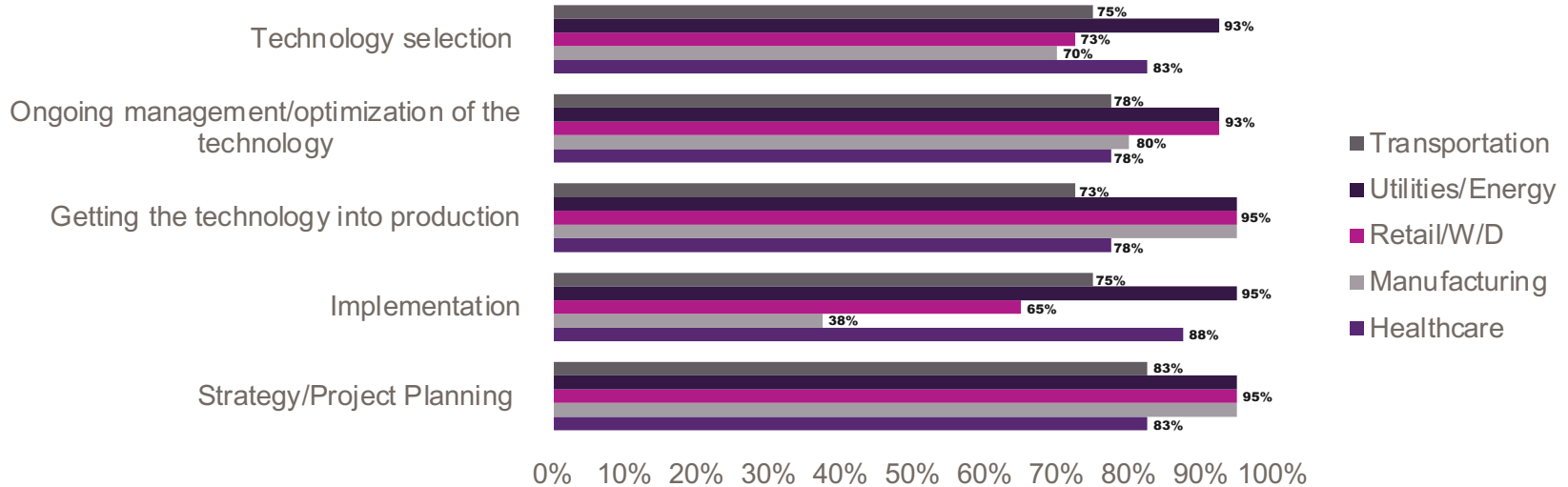
Likelihood to Leverage an External Consultant/SI to Support Phases of AI-enabled Technology Initiatives



12. How likely is your organization to leverage an external consultant or solutions integrator (SI) to support the following phases of AI-enabled technology initiatives (including computer vision)? (Please select one per row.)

The high likelihood to access third-party expertise to support AI initiatives is consistent across industries.

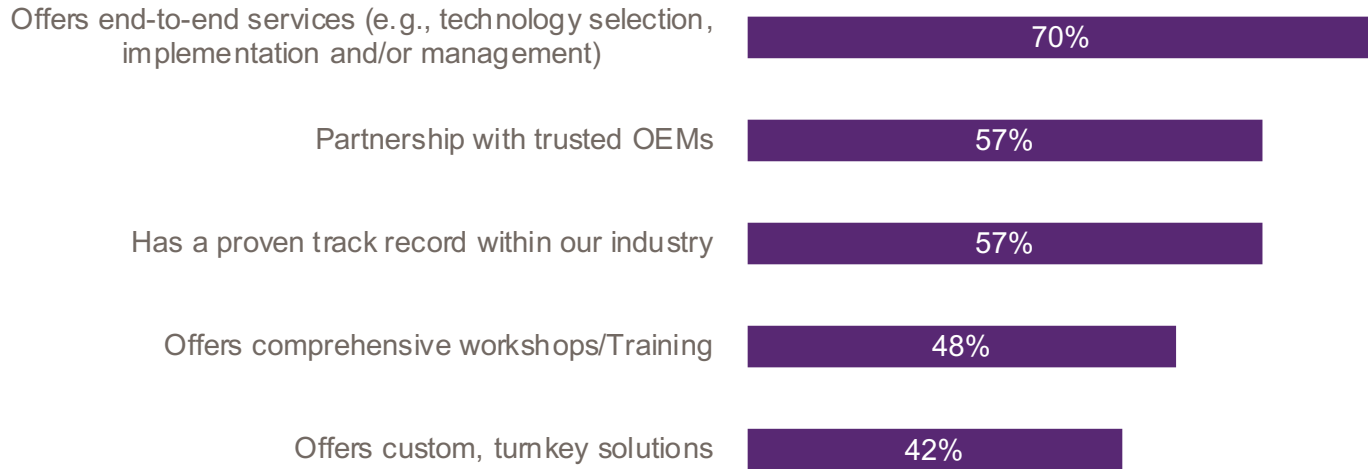
Likelihood to Leverage an External Consultant/SI to Support Phases of AI-enabled Technology Initiatives
(Summary of Extremely/Very likely)



12. How likely is your organization to leverage an external consultant or solutions integrator (SI) to support the following phases of AI-enabled technology initiatives (including computer vision)? (Please select one per row.)

The ability to provide end-to-end services is the top attribute respondents seek in a technology partner to help them pursue AI initiatives.

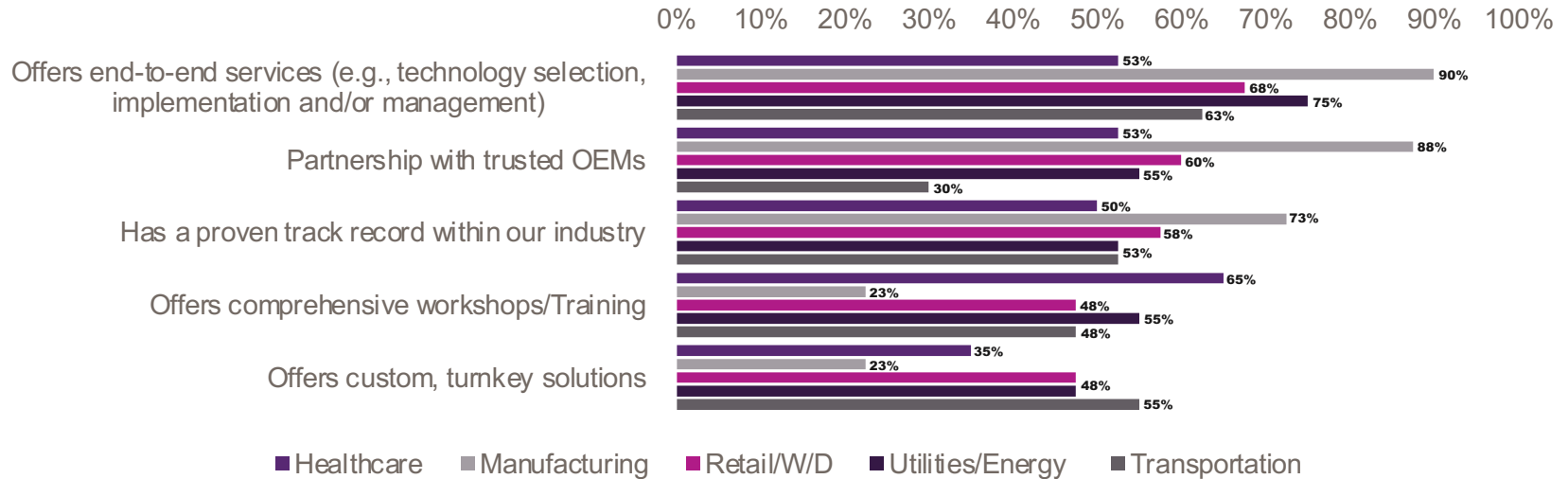
Technology Partner Attributes that Would Boost Confidence to Pursue Further AI Investments



13. What technology partner traits or attributes would give your organization more confidence to pursue further AI investments (including computer vision)?
(Please select up to three.)

Access to comprehensive workshops and training is a must when those in the healthcare vertical are seeking a technology partner.

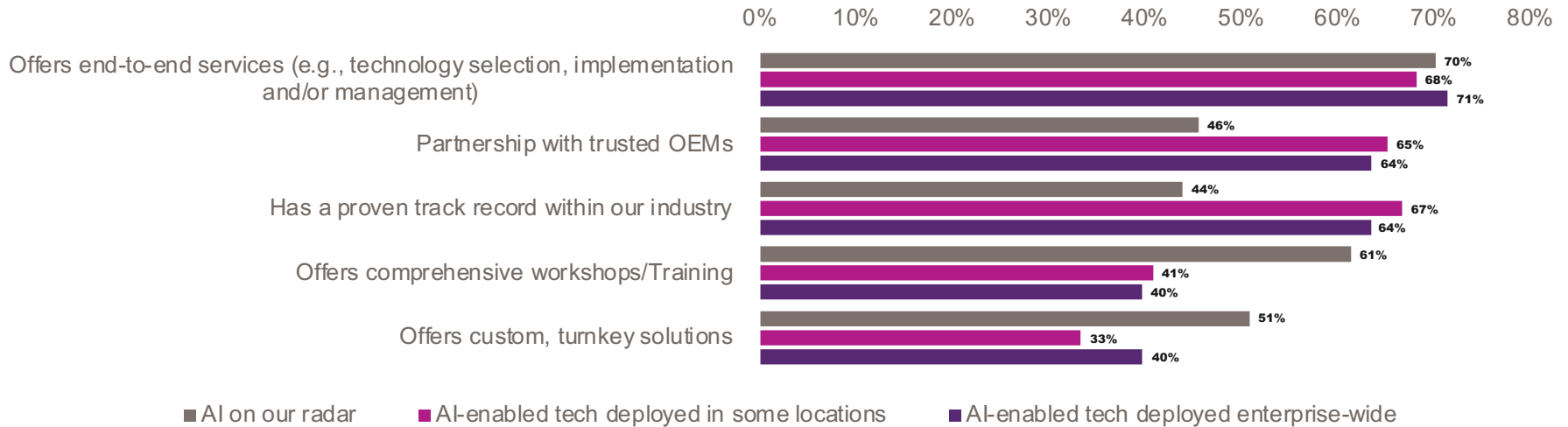
Technology Partner Attributes that Would Boost Confidence to Pursue Further AI Investments



13. What technology partner traits or attributes would give your organization more confidence to pursue further AI investments (including computer vision)? (Please select up to three.)

OEM partnerships and a proven track record within the industry are more likely to be important vendor attributes among those who have already adopted AI.

Technology Partner Attributes that Would Boost Confidence to Pursue Further AI Investments



13. What technology partner traits or attributes would give your organization more confidence to pursue further AI investments (including computer vision)? (Please select up to three.)



Contact us for more information:

General inquiries

Rick Ennis
Solutions Specialist
Insight Enterprises
515.766.0033
rick.ennis@insight.com

Media inquiries

Scott Walters
Public Relations Manager
Insight Enterprises
480.889.9798
scott.walters@insight.com

