The ROI of video analytics

How video analytics solutions can quantifiably save time, money, and effort

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Contents

Executive summary

The video analytics market is growing

The global market for standalone video analytics software licenses is forecast to grow at a compound annual growth rate (CAGR) of almost 14% between 2023 and 2028.

Artificial intelligence (AI) is improving the reliability and effectiveness of algorithms, enabling higher-tier facial recognition, object detection, and behavior analysis algorithms. In parallel, there has been an increase in end users using video surveillance solutions to gain insight beyond traditional physical security.

Video analytics, such as people counting, customer heatmaps, queue length monitoring, and inventory management, are being used by marketing, sales, and operational teams to improve their productivity and business intelligence. Furthermore, cloud and hybrid solutions are increasing the flexibility and scalability that vendors can offer customers.

The market opportunity for video analytics is clear. However, despite this roadmap of growth, there is still a challenge in measuring the return on investment (ROI) of these solutions.

Video analytics ROI

A survey of 140 end users of video analytics solutions across North America and Europe revealed that over 85% reported that they achieved an ROI within one year of investing in their video analytics solutions. In North America, almost nine out of ten respondents achieved ROI within this period.

Figure 1: Result of a survey of 140 end users of video analytics solutions across North America and Europe

Over 85% of end users stated that they **achieved an ROI** on their video analytics solutions **within 1 year**
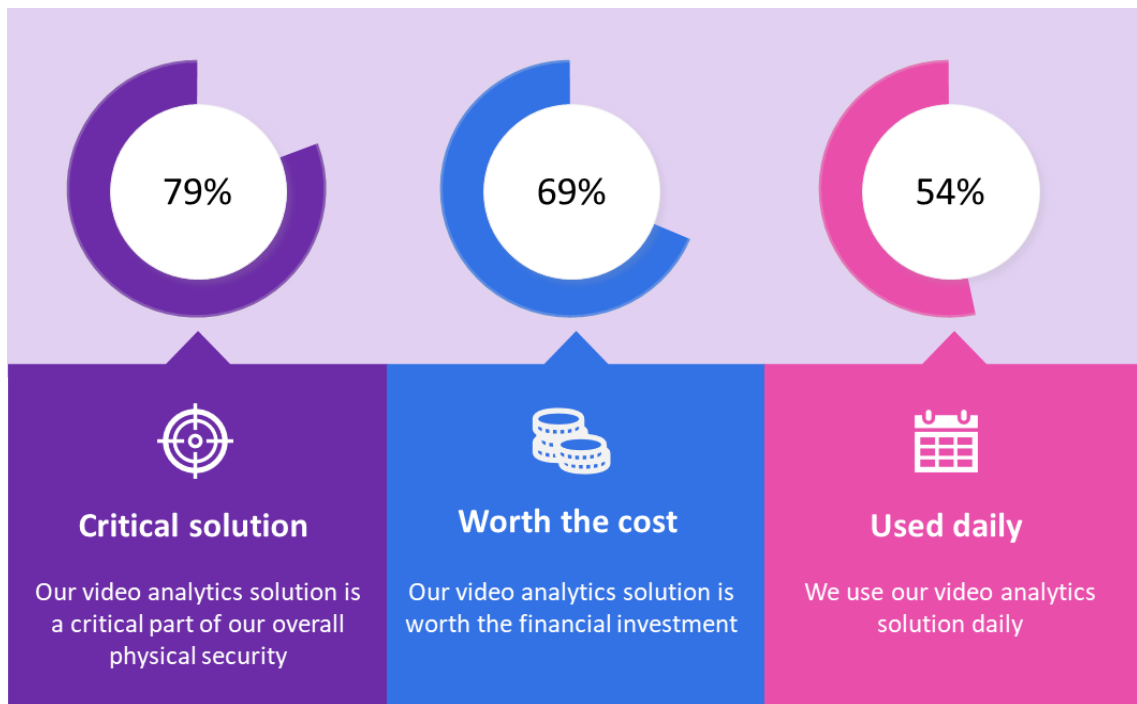
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Source: Omdia

The time it takes to achieve an ROI varies by vertical market. In the commercial as well as the utilities & energy markets, 27% and 30% of end users, respectively, stated that it took longer than one year to achieve ROI. However, in the banking and finance sector, 95% of end users surveyed stated achieving ROI within a year, while in manufacturing, this percentage was 90%.

The value of video analytics

The video analytics market offers an important value proposition as these solutions play a crucial role in an end user's overall physical security solution. In the same survey, nearly four out of five respondents agreed with the statement, "Our video analytics solution is a critical part of our overall physical security." This shows that analytics have become a core solution for security professionals who opt to deploy them.

Figure 2: Percentages of survey respondents who agreed with the following statements

79%

Critical solution

Our video analytics solution is a critical part of our overall physical security

69%

Worth the cost

Our video analytics solution is worth the financial investment

54%

Used daily

We use our video analytics solution daily

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Source: Omdia

Additionally, 69% of end users agreed that their video analytics solution was a worthwhile financial investment. Given the challenges around winning budgets that the physical security market has traditionally dealt with, this is a strong endorsement of the power and value of video analytics. Finally, over half of the respondents stated that they use their video analytics solution daily. This further supports the conclusion that video analytics provide great value to the leaders deploying these solutions.

Introduction

This white paper presents findings from a survey of 140 end users in both North America and Europe. End-user respondents were active across different vertical markets and job functions. The primary qualifying questions for the survey were:

- Are you an end-user of video surveillance equipment using/buying video analytics solutions?

- Does your organization use recorder/server-side video analytics software solutions as part of its video surveillance solution?

Objectives of the white paper

The aim of the study is to support physical security end users in assessing the benefits, challenges, and ROI potential for video analytics solutions. The content offers a unique insight into the ROI opportunities and challenges inherent in the video analytics market. The paper is relevant to end-user roles in physical security, IT, operations, facility management, and marketing, as well as C-level roles. The white paper covers the following topics:

- **ROI opportunity assessment**: Identifying business challenges that are well suited to using video analytics.

- **Quantifying the ROI of video analytics**: Measuring the time, money, and resource savings that can be gained from video analytics.

- **Features and functionality**: New features valued by end users and the most important considerations when deploying video analytics.

- **Conclusions**: Summary and key points.

The survey methodology and respondent demographics are covered in the **Appendix**.

ROI opportunities

ROI can be difficult to measure in the physical security market. Protecting people and assets is typically viewed as a cost center rather than a profit generator. However, it is also true that there are costs associated with not protecting people and assets.

When assessing the ROI of a video analytics system, it is valuable to start by understanding which challenges and business objectives are most important to an organization. According to the end users surveyed, staff safety is the most important challenge (**Figure 3**).

Figure 3: Challenges and business objectives

What are the most important challenges and business objectives for your organization?
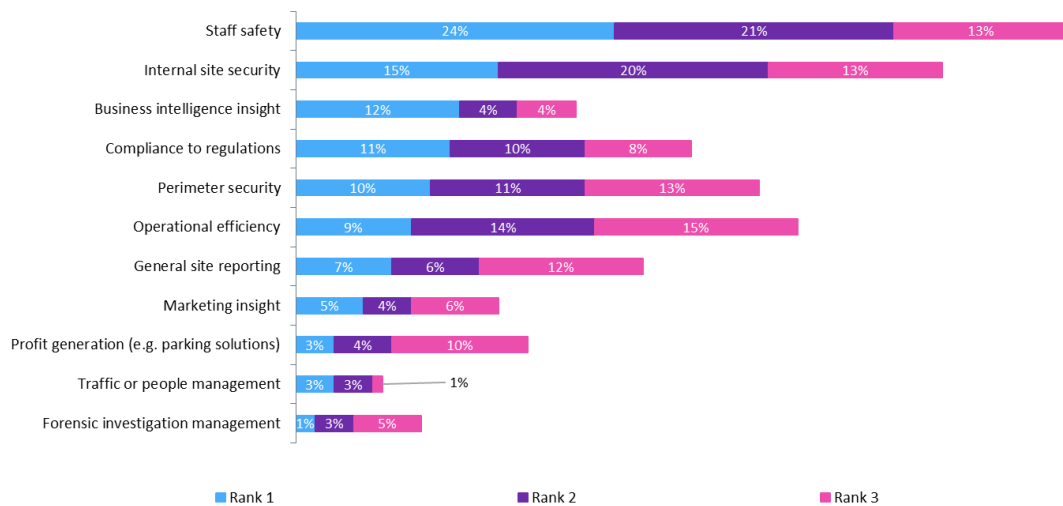
Notes: N = 140

Source: Omdia

61% of respondents chose staff safety as one of their top three challenges or business objectives, with 24% ranking it as the number one challenge. Internal site security was the second most common choice. Physical security objectives remain the priority activities for end users responsible for decision making around server-side video analytics software.

There are variations when assessed by region. European-based end users were more likely to focus on staff safety, with 62% of respondents stating it was one of their top three business objectives or challenges. This was 20% higher than the percentage choosing internal site security. North American

end users were marginally more likely to identify site security as a top challenge, although staff safety was a clear leader in terms of the highest-ranked challenge. Perimeter security was the other stand-out difference, with North American end users prioritizing it more highly.

At the other end of the scale, forensic investigation management was the least important challenge or business objective. In some organizations, users may be less familiar with the benefits of forensic search. They may also have a limited need for post-event investigations. Traffic and people management, profit generation, and marketing insight were other less important objectives identified in the survey.

Operational efficiency is an interesting objective because it has an associated ROI. Video analytics can be used to improve the productivity of staff through measuring customer dwell time, heat mapping, or inventory management solutions. It was ranked third when combining all responses together.
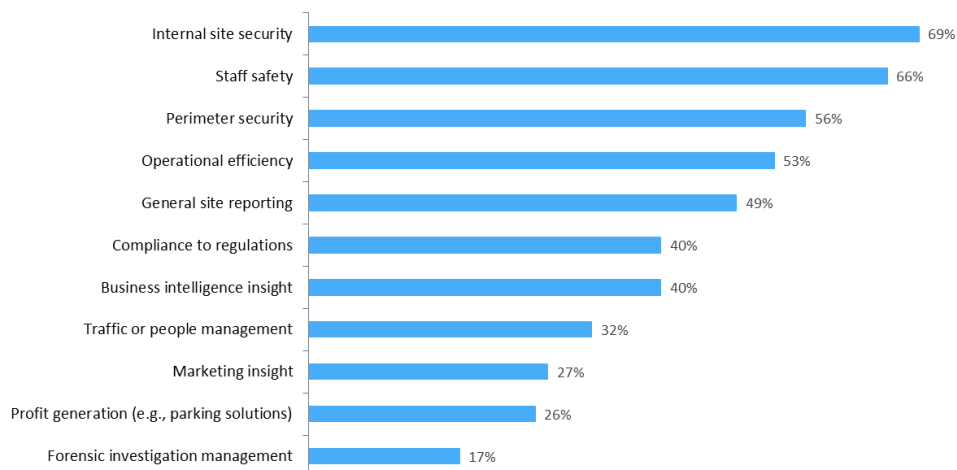
There are vertical differences, too. In the utilities, energy, and mining sectors, internal site safety and operational efficiency were the highest-ranked objectives, and no respondent chose profit generation as important. Operational efficiency was ranked proportionally higher in the manufacturing and industrial markets. In the retail sector, traffic and people management stood out as more important when compared to all respondents.

Video analytics market opportunities

Mitigating challenges and meeting business objectives has an ROI. The survey asked end users where they believed video analytics could best support their objectives (**Figure 4**).

Figure 4: Challenges and business objectives well suited to video analytics

Which challenges and business objectives do you think video analytic solutions could help you achieve your targets?


Challenge/Objective	Percentage
Internal site security	69%
Staff safety	66%
Perimeter security	56%
Operational efficiency	53%
General site reporting	49%
Compliance to regulations	40%
Business intelligence insight	40%
Traffic or people management	32%
Marketing insight	27%
Profit generation (e.g., parking solutions)	26%
Forensic investigation management	17%

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Notes: N = 140

The top two challenges were also the top two areas where respondents felt video analytics were well suited to helping them achieve their targets: internal site security and staff safety. More than 50% of respondents stated that video analytics could help them achieve their targets in perimeter security and operational efficiency. Conversely, the bottom two business objectives aligned with those areas where video analytics was not considered well-suited.

This is further examined in **Figure 5.** The purpose of this chart is to cross-reference the most important objectives with the video analytics market's ability to support these objectives. Areas of greatest opportunity for video analytics solutions are found in the top right corner where the objective is important, and end users believe video analytics can help.

Figure 5: Important challenges versus video analytics suitability

Security respondents; n=140
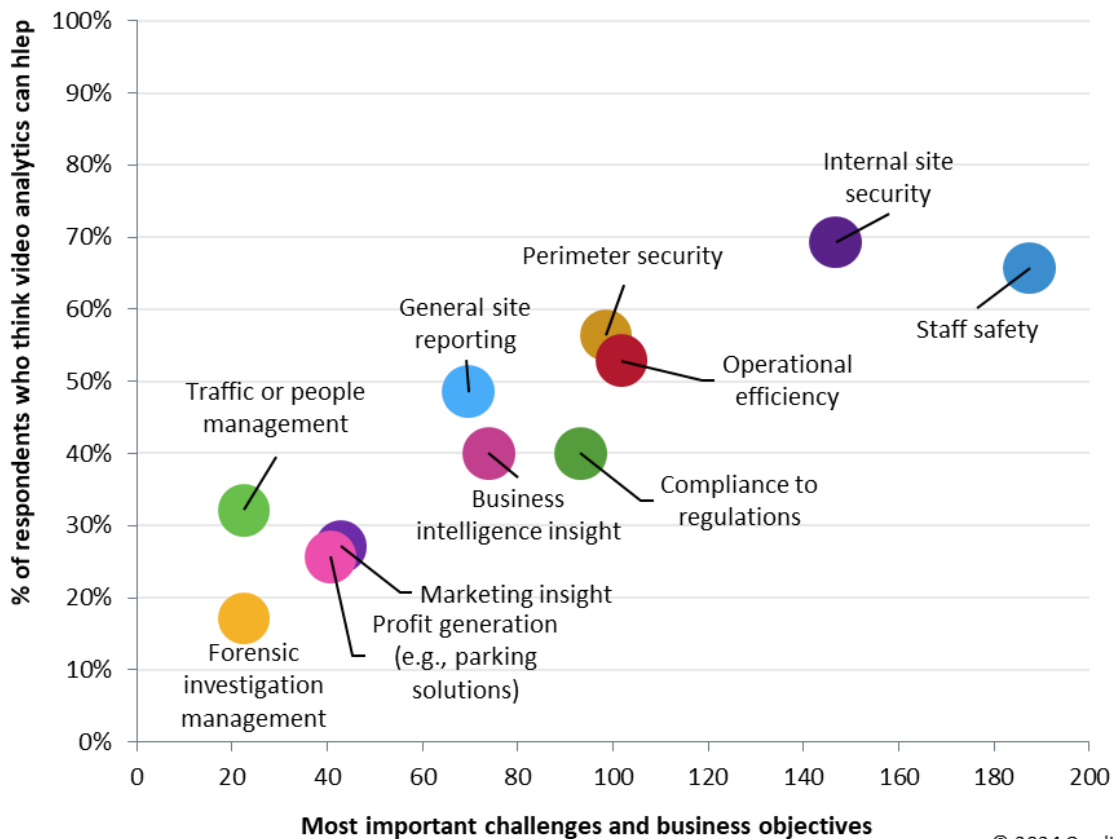
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Ranking the importance of challenges and business objectives is based on allocating a score to each response (Rank 1 = 3 points, Rank 2 = 2 points, and Rank 3 = 1 point). The scale for suitability of video analytics is derived from the respondent shares outlined in **Figure 4**.

Perimeter security and operational efficiency score well in this assessment. Both are important objectives and are considered well-suited to the capabilities and advantages of video analytics. Regulatory compliance is another objective that could provide a strong ROI opportunity. Managing compliance standards is a business cost, and efficiency gains can have a direct impact on the bottom line. Profit generation and marketing insights are considered lower opportunity objectives.

Quantifying the ROI of video analytics

ROI can be measured in terms of money. It can also be measured in terms of time that does not need to be spent on an activity or resources that can be allocated to other tasks. ROI can also be compared based on its impact on associated activities or objectives.

According to the survey respondents, video analytics solutions have been most impactful in saving their organizations time, resources, or money in loss prevention and in reducing the resources and time spent on frontline security tasks (**Figure 6**). When combining all rank responses, reducing frontline security costs (wages) was the second most impactful saving. End users have had the most ROI success in traditional security applications, augmenting guarding costs and reducing theft.

Figure 6: ROI rankings

Where would you estimate your video analytics solution has been most impactful in saving your organization time, resources, or money?
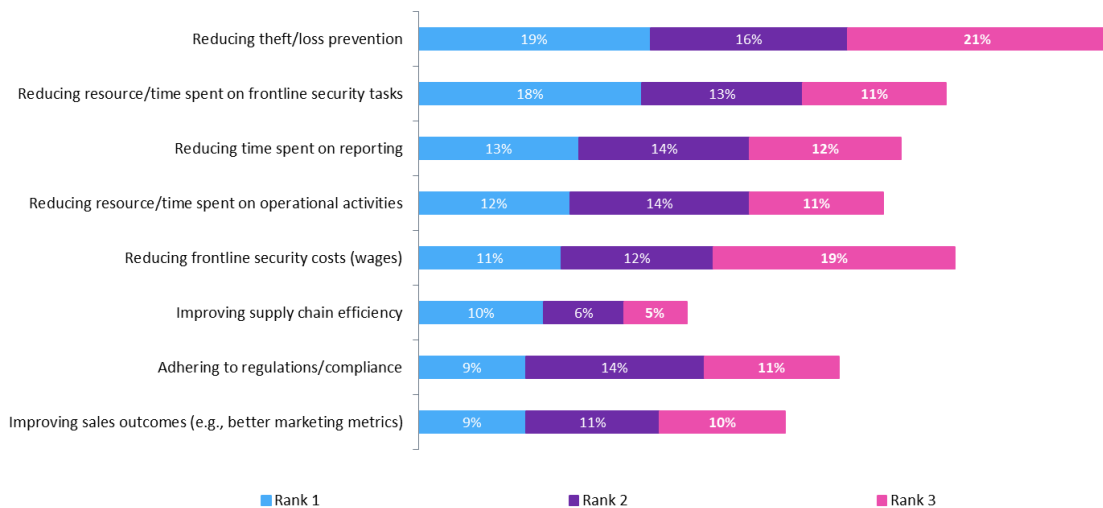
Notes: N = 140

Source: Omdia

The second area of ROI success is in operational activities. Reducing the time spent on reporting and the resources allocated to operational activities both scored well in terms of impactful use cases. This is a direct, measurable benefit provided by video analytics solutions in these application types.

For example, video analytics can track and codify incidents and alerts in a formal report which saves operators' time. Likewise, manual operations can be augmented by video analytics solutions to support a range of tasks, including crowd management, employee monitoring, predictive maintenance, and safety compliance.

The most challenging use case to identify the impact of ROI is in sales and supply chain management. These applications are less common and not relevant for all end-user industries. For example, in the education market, no respondents chose improving supply chain efficiency as an impactful ROI.

Estimating the impact of video analytics

Going a step further and quantifying the ROI reveals some interesting results (**Figure 7**). The data shows that 46% of end users estimate savings of more than double digits in time, resources, or money when using their video analytics to reduce theft or loss prevention. This number decreased to 44% when considering the impact on reducing frontline security costs. While the impacts vary, few respondents stated that they had seen no benefit from their activities.

Figure 7: Quantifying the ROI

How would you quantify the impact of your video analytics solution in saving your organization time, resources, or money?
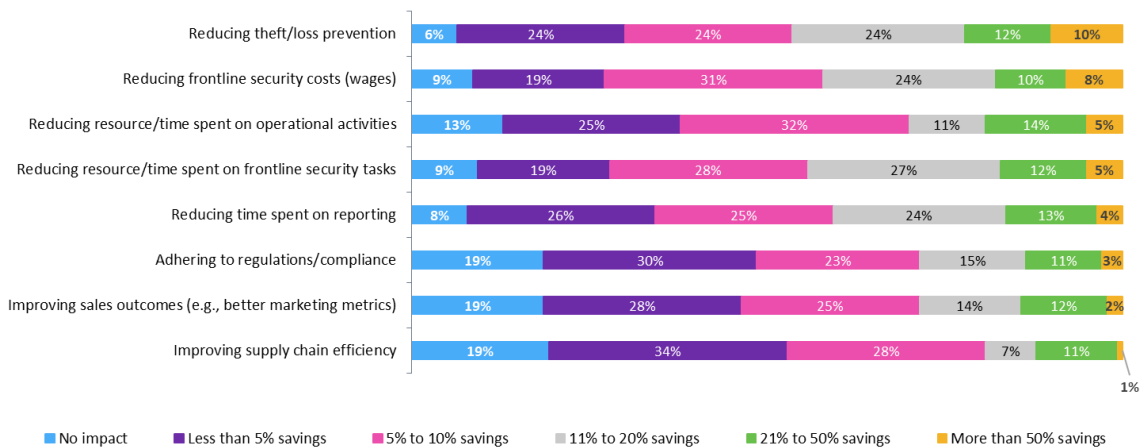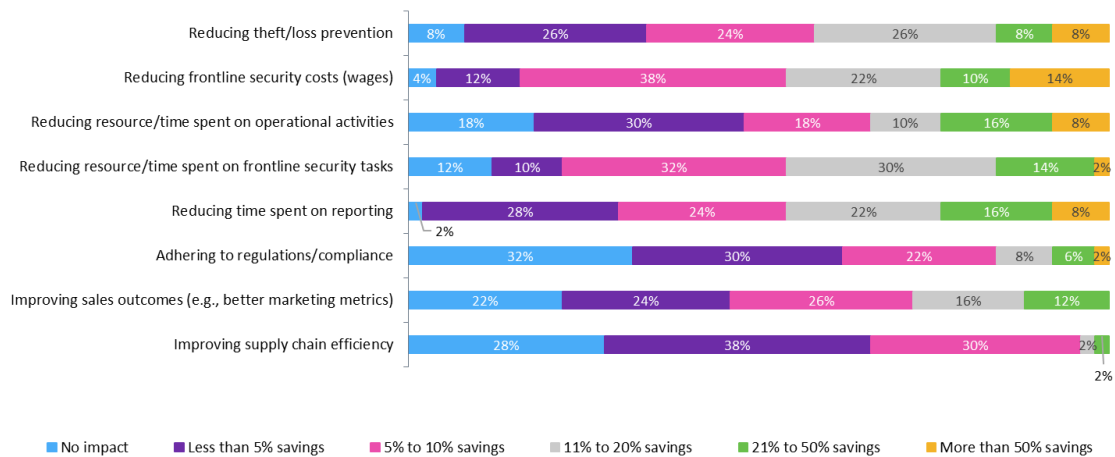

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Notes: N = 140

Source: Omdia

As highlighted in the ranking assessment (**Figure 6**), it can be harder to identify the ROI benefits in operational and marketing applications. When asked about improving supply chain efficiency, more than half of the survey respondents stated they had seen less than 5% savings. This includes 19% who stated they had seen no impact, likely owing to not applying video analytics in this application.

Seven out of ten respondents stated they had less than 10% impact in improving sales outcomes, adhering to regulations and compliance, and reducing the resources or time spent on operational activities. In the case of operational activities, this is despite 5% of respondents seeing a more than 50% saving in the resources spent on operations. One assessment of this data is that operational and marketing video analytics solutions are less likely to be deployed by end users. However, when they are invested in, these solutions can provide significant ROI benefits. In some cases, more than 50% savings on time, resources, or money.

Figure 8: Quantifying the ROI (company size: 1,000+ employees)

How would you quantify the impact of your video analytics solution in saving your organization time, resources, or money?

Notes: N = 140

Source: Omdia

There is also a material difference in the way large companies with 1,000+ employees quantify the savings from video analytics solutions. 6% more end users stated they achieved more than 50% savings in reducing frontline security costs using video analytics. These organizations will typically have larger salary costs for guarding operations, so the benefits of committing to a technology solution that reduces these costs are more impactful. Large companies also saw more benefits in reducing the time spent on reporting. This could be due to more rigorous reporting requirements in larger companies.

In contrast, larger organizations were less likely to see a significant impact in adhering to compliance or regulations. 32% of respondents stated they had no impact on their business on this activity, compared with 11% of respondents in companies with less than 1,000 employees. It can be inferred from this data that large organizations are more cautious about using new technology solutions to meet their compliance requirements.
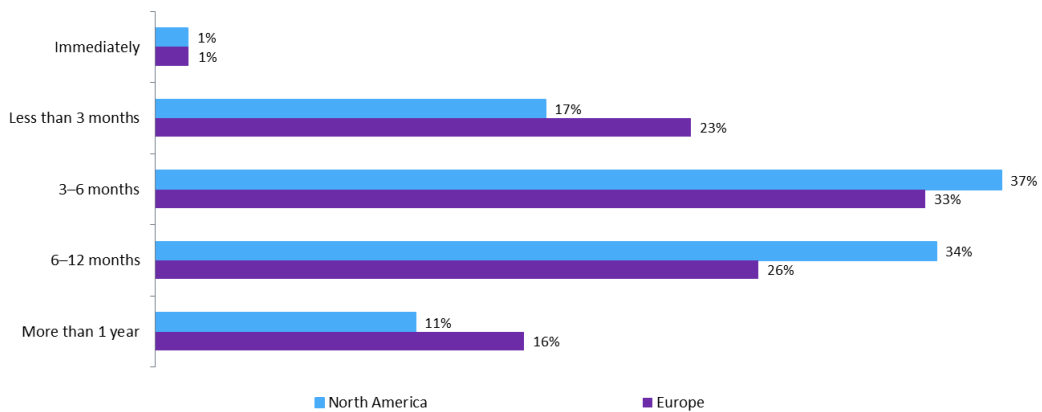
Improving supply chain efficiency was another category where there was a discernable difference due to company size. Smaller organizations have seen more impact and benefit in using video analytics solutions here. Supply chains in larger organizations are often more complex and end users may be less willing to implement new technology to what is an already multifaceted system.

How long does it take to achieve ROI?

Quantifying the impact of video analytics ROI is one measure. Another is to look at the time required before an ROI is achieved. In North America, nearly nine out of ten respondents stated they achieved an ROI on their video analytics solution within a year (**Figure 9**). In Europe, this rate was a little lower.

Figure 9: Time required to achieve ROI (by region)

When did you achieve an ROI on your video analytics solution?

	North America	Europe
Immediately	1%	1%
Less than 3 months	17%	23%
3–6 months	37%	33%
6–12 months	34%	26%
More than 1 year	11%	16%

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Notes: N = 140

Source: Omdia

There are also variations by vertical market. In the banking and finance market, the ROI was typically achieved within a year, while for verticals, such as retail and healthcare, almost one in five respondents stated it would take more than one year. Even within verticals, there are differences, with half of the healthcare respondents stating that it takes three to six months to achieve ROI, while 18% stated it took more than one year.

End users were also asked whether there were any surprising ROI benefits from their video analytics solution. While most stated time and resource savings and the associated financial benefits, there were some interesting responses. Respondents highlighted "Employee well-being and the quality of an organization's overall work." Another mentioned that the "amount of money saved on reporting and other surveillance [activity] paid for the cost of upgrading our security system in less than 4 months."

Features and functionality

Education is an important part of video analytics ROI. If end users and systems integrators are not aware of the opportunities and how to maximize them, then market adoption is slower and the ROI less significant. Reviewing the perceived importance of different video analytics algorithms is useful in assessing educational and training gaps that could help the security industry generate more value from video analytics.

Figure 10 shows a ranking of how end users view the importance of different video analytics solutions. The most important algorithm type was perimeter tracking/alerts, further confirming that the core video analytics applications remain in the realm of traditional physical security. Face recognition and authentication, object tracking, and classification also scored highly from end users.

Figure 10: Important video analytics solutions

How important are the following video analytics solutions for your business security and operations?

Legend: ■ Very important ■ Somewhat important ■ Slightly important ■ Not important ■ Not sure
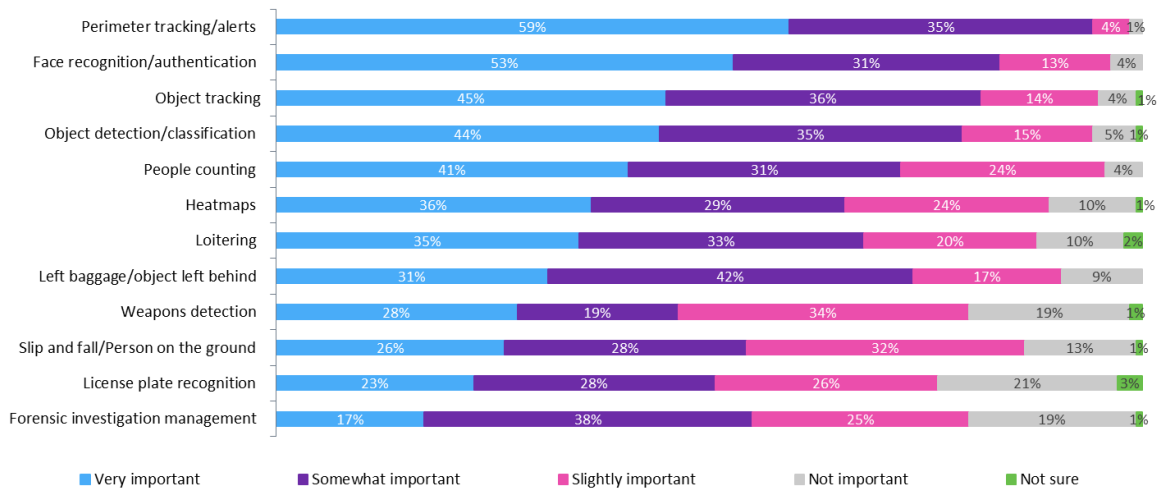
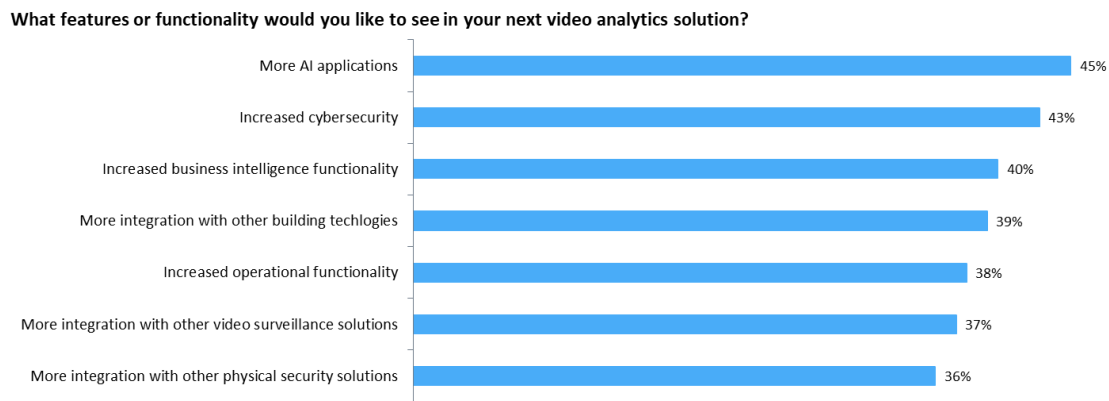© 2024 Omdia

Notes: N = 140

Source: Omdia

Algorithms that may require more market education include forensic investigation management, license plate recognition, and slip and fall analytics. The ROI on each of these applications is clear; however, end users do not currently value them as highly as many of the other video analytics.

When asked about other use cases where they had found success, end users mentioned applications like control of biochemical substances, tracking punctuality and monitoring employees, patient safety, and verification of incidents. This last use case can have ROI benefits across lots of applications, such as confirming what happened in an accident, providing a timeline of a security incident, or litigating compliance in an injury.

Looking to the future, video analytics end users are already aware of the opportunities around AI applications (**Figure 11**).

Figure 11: Future features and functionality

What features or functionality would you like to see in your next video analytics solution?

More AI applications — 45%
Increased cybersecurity — 43%
Increased business intelligence functionality — 40%
More integration with other building techlogies — 39%
Increased operational functionality — 38%
More integration with other video surveillance solutions — 37%
More integration with other physical security solutions — 36%
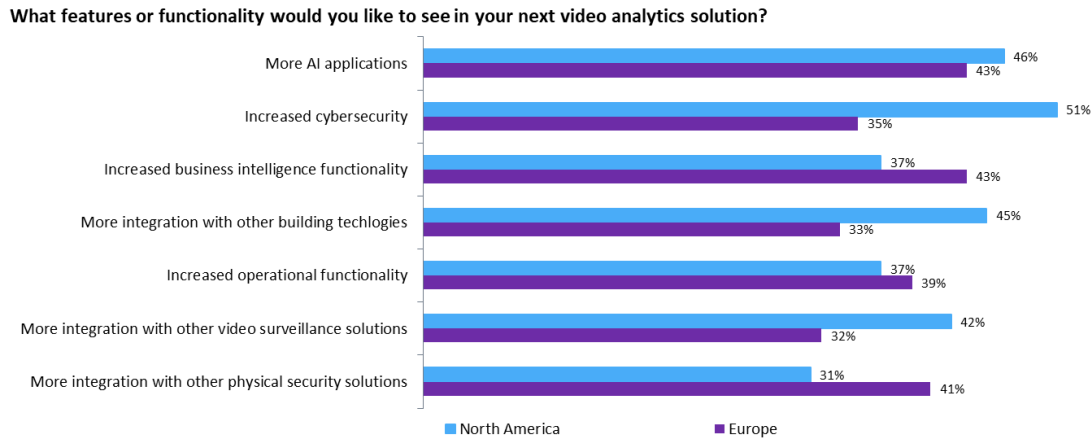
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Notes: N = 140

Source: Omdia

45% of respondents stated they would like more AI from their vendors. The adoption of artificial intelligence has increased across consumer and industrial markets, including educating end users and the benefits of the technology. This will continue to be a theme in the video analytics solutions market over the coming months and years.

In addition to more AI applications, increased cybersecurity is another priority that is top of mind. Threats from bad actors around the world continue to generate news cycles and provide a driver for end-user awareness. This is particularly the case in North America (**Figure 12**), where more survey respondents chose cybersecurity than artificial intelligence as the functionality they would like to see in future solutions.

Figure 12: Future features and functionality (by region)

What features or functionality would you like to see in your next video analytics solution?
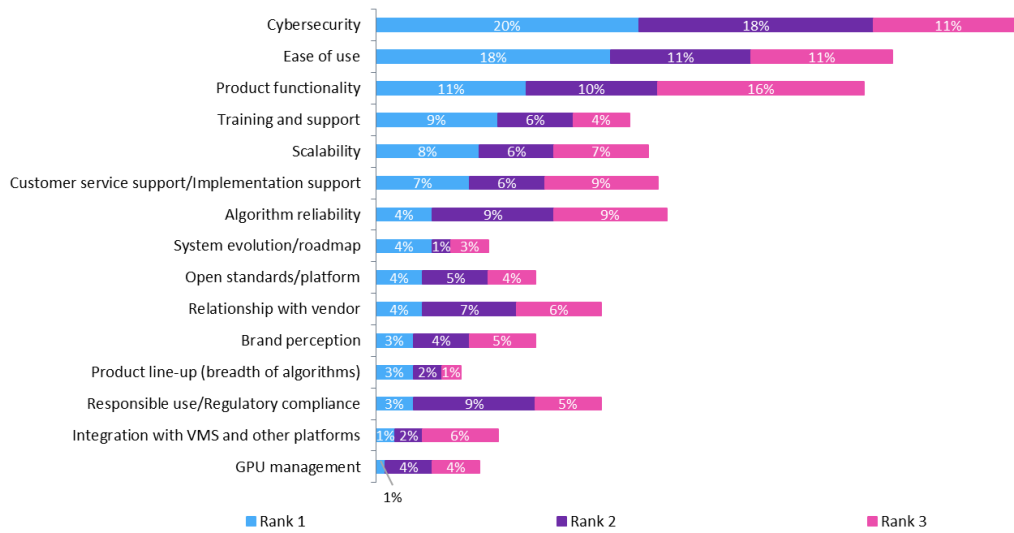

Notes: N = 140

Source: Omdia

Vendors that have product and system hardening guides, longer-term experience in the video analytics markets, and a strong ecosystem of partners should be best placed to support end users with these cybersecurity challenges.

Finally, when end users were asked about more specific features important in their video analytics solution decision (**Figure 13**), in addition to cybersecurity, ease of use and product functionality scored highest.

Figure 13: Important considerations when choosing video analytics

Excluding pricing, what are the most important considerations when choosing a video analytics solution?

	Rank 1	Rank 2	Rank 3
Cybersecurity	20%	18%	11%
Ease of use	18%	11%	11%
Product functionality	11%	10%	16%
Training and support	9%	6%	4%
Scalability	8%	6%	7%
Customer service support/Implementation support	7%	6%	9%
Algorithm reliability	4%	9%	9%
System evolution/roadmap	4%	1%	3%
Open standards/platform	4%	5%	4%
Relationship with vendor	4%	7%	6%
Brand perception	3%	4%	5%
Product line-up (breadth of algorithms)	3%	2%	1%
Responsible use/Regulatory compliance	3%	9%	5%
Integration with VMS and other platforms	1%	2%	6%
GPU management	1%	4%	4%

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Notes: N = 140

Source: Omdia

It is important that video analytics solutions are effective and offer new functionality, but they must also be simple to use. Other topics that end users consider when choosing a video analytics solution include training and implementation support, reliability, and scalability. Successful video analytics deployments are a combination of the quality of the solution and the competency of the installation, operation, and training.

Conclusions

The video analytics market is fast growing. AI is disrupting the market, supporting new solutions that are more effective and impactful, and improvements in edge processing capacity are providing the foundation to process these algorithms without the challenges of bandwidth and latency found in centralized or cloud networks.

Figure 14: Global market for standalone video analytics software licenses forecast

The global market for **standalone video analytics software** licenses is forecast to **grow at a CAGR of almost 14%** between **2023 and 2028**

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Source: Omdia

As the market evolves, end users will increasingly find ROI opportunities in applying video analytics solutions to their challenges and business objectives.

Summary and key points

- 69% of end users stated that improving internal site security was a business objective that video analytics solutions could help them achieve. 66% of respondents agreed that staff safety was also well suited to video analytics. Both objectives ranked highly when end users assessed their most important challenges and represented important ROI opportunities for the analytics market.

- The ROI from video analytics has been most impactful in traditional security applications. 46% of end users estimate a more than double-digit saving in time, resources, or money in reducing theft or loss prevention based on their video analytics solution. There is a business case for deploying video analytics in these applications based on the survey findings.

- Operational activities, such as reducing reporting time costs, represent a strong opportunity for end users to find value from video analytics. Manual operations can be augmented by video analytics solutions to support a range of tasks, such as crowd management, employee monitoring, predictive maintenance, and safety compliance.

- According to the end user respondents surveyed, an ROI on video analytics solutions is typically achieved within a year. While there is variation by region and vertical sector, nearly nine out of ten end-user respondents confirmed this timeline.

- AI is the most requested feature or functionality that end users are looking for in new solutions. Beyond this trend, perimeter tracking, facial recognition, and object tracking are considered the most important applications. More operational algorithms, such as people counting, heat mapping, and loitering, are the next batch of important applications for end users to consider.

Respondents' demographics

Figure 15: Respondents' organization headquarters (by region)

What region is your organization headquartered?
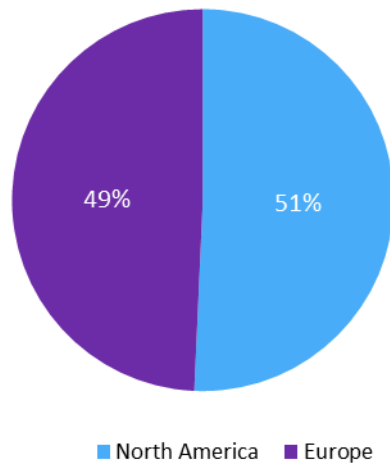
49%   51%

■ North America ■ Europe

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Notes: N = 140

Source: Omdia

How familiar are you with your organization's video analytics (computer vision) strategy for safety/security, customer experience, and workforce/operational optimization?

52%

32%

16%
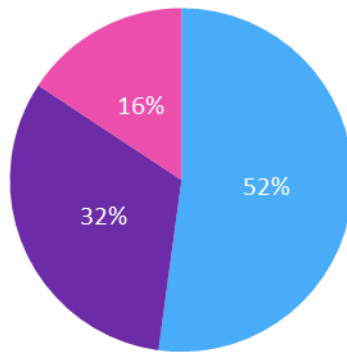
■ Very familiar   ■ Familiar   ■ Somewhat familiar

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Notes: N = 140

Source: Omdia

Figure 17: Respondents' level of influence in planning, administration of the system, and making purchase decisions in recorder/server-side video analytics

What is your level of influence in planning, administration of the system, and making purchase decisions in recorder/server-side video analytics?

Primary decision maker ■ A lot of influence ■ Some influence
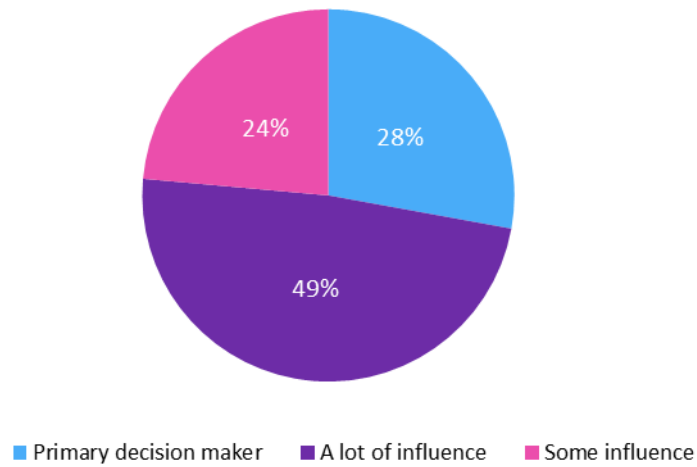
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Notes: N = 140

Source: Omdia

Figure 18: Primary industries of respondents' organizations

What is your organization's primary industry?

Industry	Percentage
Manufacturing and industrial	22%
Retail	18%
Healthcare	16%
Banking and finance	15%
Commercial	8%
Utilities, energy & mining	7%
Education	5%
Data centers	2%
Ports & rail	2%
Sports and leisure	2%
Airports	1%
Casinos and gaming	1%
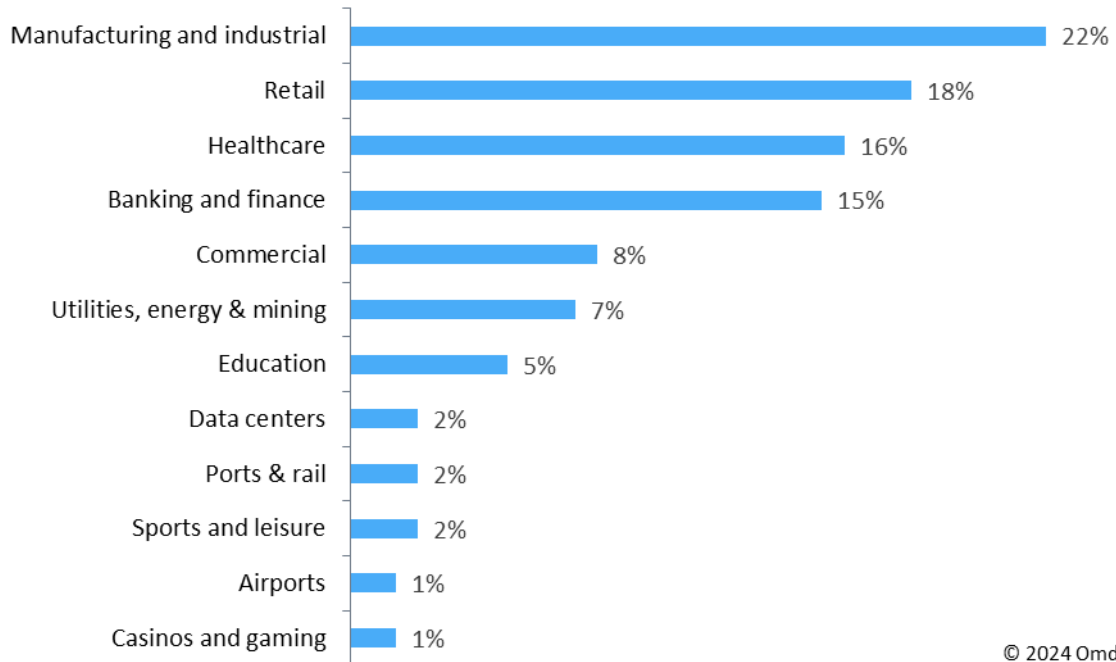
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Notes: N = 140

Source: Omdia

Figure 19: Number of employees in respondents' organizations

How many employees are in your organization?

Less than 100	10%
100 - 499	29%
500 - 999	25%
1,000 - 5,000	19%
More than 5,000	16%
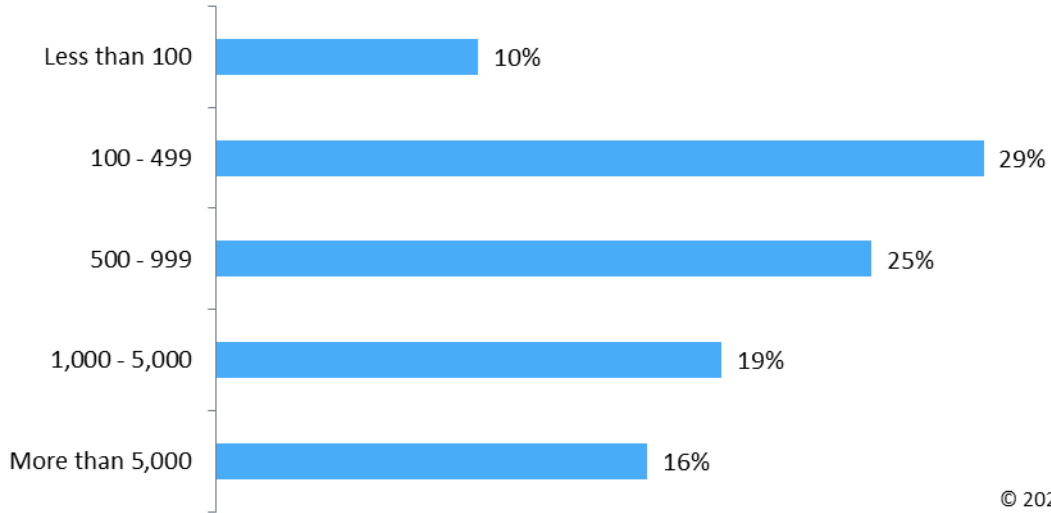
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Source: Omdia

Figure 20: Primary job functions of respondents

What is your primary job function?

Job function	Percentage
IT manager/director	46%
Operations	11%
Security manager/director	11%
Facilities manager/director	10%
C-Level Executive/VP	9%
Marketing	5%
Purchasing manager/director	4%
Security system administrator	4%
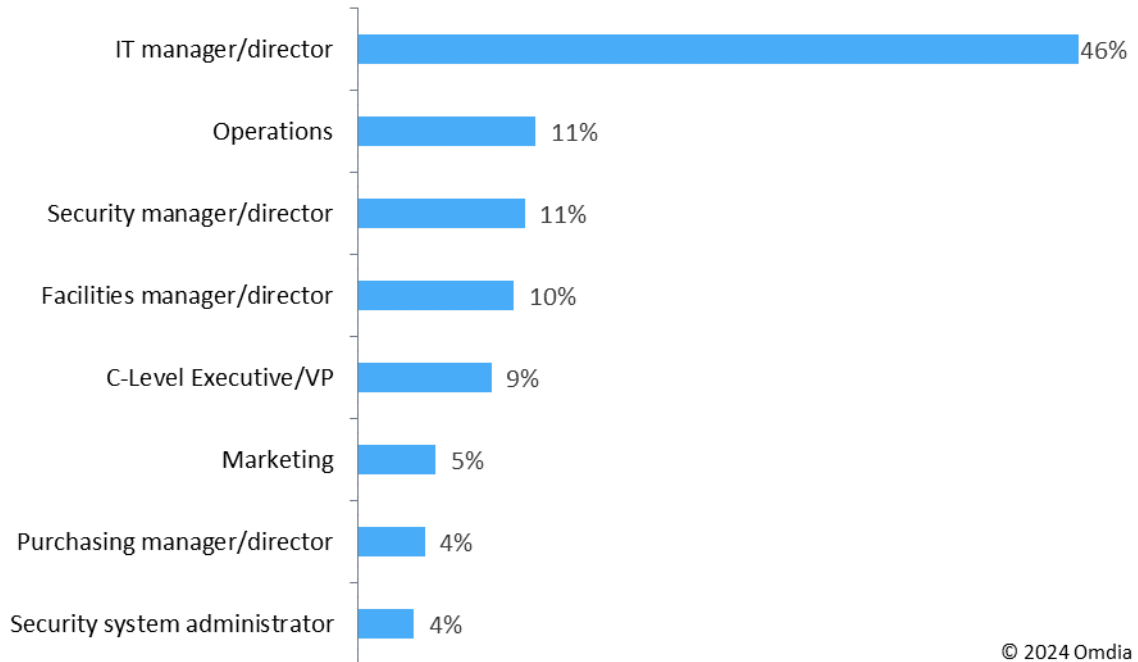
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Notes: N = 140

Source: Omdia

Appendix

Methodology

The survey was conducted by Omdia.

It was conducted using Computer-Assisted Telephone Interviewing (CATI). This means that respondents answer a structured set of questions (online or via a telephone call) mostly with prescribed options (closed questions) and limited open questions.

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Get in touch

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