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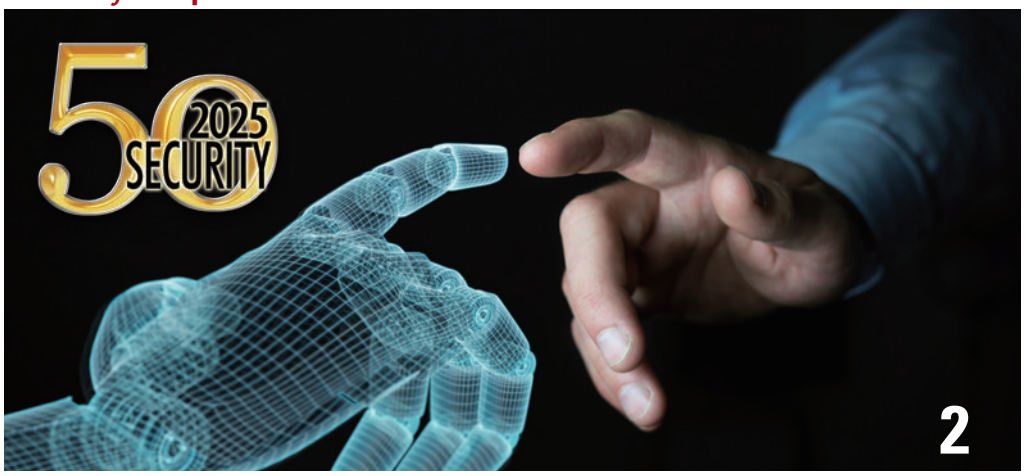
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Security 50: Industry shows resilience amid strong economic headwinds

Looking back at 2024, we observed the global economy achieved a subdued growth of 2.8 percent, according to the World Bank. This is more or less reflected in this year's Security 50, where companies' 2024 growth averaged 3.28 percent. As for this year and next, amid trade barriers, regional conflicts and other uncertainties, security companies still expressed optimism for continued growth, which they said will be driven by advanced technologies, especially breakthroughs in AI.

BY William Pao

Welcome to asmag.com's 2025 Security 50, featuring the Top 50 companies in physical security based on their 2024 revenue from security product sales. The Top 10 companies this year are: Hikvision Digital Technology, Dahua Technology, ASSA ABLOY, Motorola Solutions, Axis Communications, Allegion, Tiandy, Hanwha Vision, Raythink and TKH. Hikvision and Dahua remain the world's No. 1 and No. 2 security companies, with 2024 revenues of US$12.86 billion and $4.47 billion, respectively.

We also see some new entrants on this year's list. They are Raythink, Alarm.com, Arlo and Innodep. In particular, Raythink, based in China, specializes in the development, manufacturing and marketing of intelligent photoelectric sensing technology. Innodep, based in Korea, is a specialized company focused on AI-based smart city platforms.

Top growth companies

Meanwhile, a majority of companies—33—registered growth in 2024 year-on-year. The Top 10 growth

companies are: ITX, Sparsh CCTV, Dongguan Yutong Optical Technology, Tamron, Everfocus Electronics, Raythink, Milestone Systems, Dynacolor, Intelbras and Hanwha Vision. It's worth noting that the world's biggest two, Hikvision and Dahua, saw slowed growth momentum due to adverse conditions in markets, domestic and abroad.

Chinese market decline

Indeed, Chinese companies performed inadequately last year and more or less dragged down the global market as a whole. A report by Novaira Insights, for example, finds that the global video surveillance market experienced a decline of 0.3 percent in 2024, due largely to a China market decline of 7.8 percent, which offset growth of 4.9 percent for the rest of the world. OMDIA also noted the Chinese market experienced its third consecutive year of contraction, by 9.6 percent in 2024, while markets outside China expanded a healthy 7.5 percent to $16.8 billion.

"The persistent downturn stems from a combination of factors: a prolonged real-estate sector correction, restricted public-sector spending, and diminished business confidence, all of which have curtailed project investment across government, enterprise and small-to-medium sized business sectors, deepening the market's multi-year contraction," said Tommy Zhu, Principal Analyst for Physical Security at Omdia.

As for 2025 and 2026, Omdia gave a more positive outlook for the Chinese market, forecasting a smaller decline this year and a return to growth next year. "The growth drivers include increased issuance of government bonds focused on digitization, infrastructure, and high-tech manufacturing. Recently announced mega projects, such as the hydropower project in the Yarlung Zangbo River and Xinjiang-Tibet railway will also boost growth in the critical infrastructure sector," Zhu said.

A review of 2025

2025 was an eventful year. Russia's war against Ukraine dragged on. The conflict in the Middle East continued until Israel and Hamas reached a truce, whose effectiveness remains to be seen. But the real transformative force that changed the global economic dynamics was the trade war launched by the U.S. against different nations. The trade war between the U.S. and China has been particularly intense, with the U.S. slapping triple-digit tariffs on China and banning sales of advanced US technologies, including advanced chips, to China. China has responded in kind by controlling rare earths exports to the U.S. and halting purchases of U.S. soybeans. After recent talks between Presidents Xi Jinping and Donald Trump in Korea, the two superpowers temporarily reached a truce that is set to last a year.

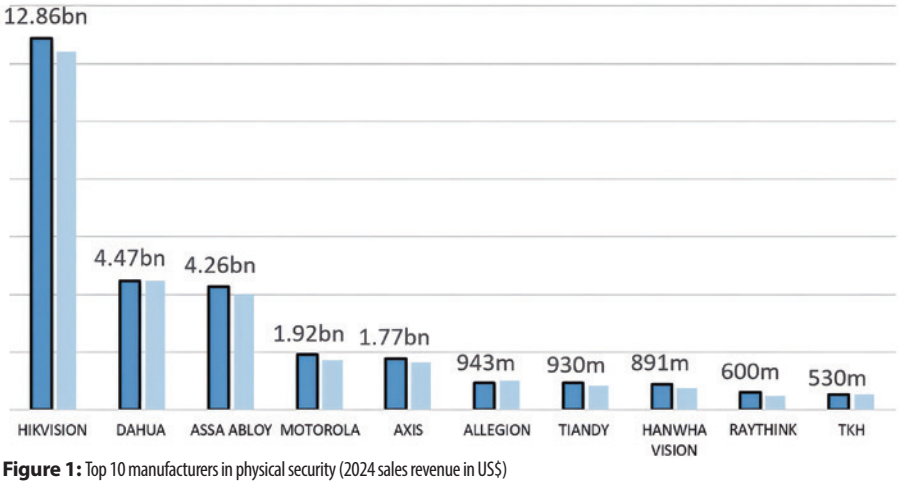


Figure 1: Top 10 manufacturers in physical security (2024 sales revenue in US$)



Figure 2: Top 10 manufacturers accounted for 90% of the total Security 50 revenue

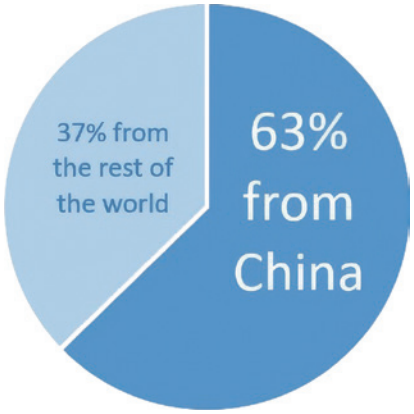


Figure 3: Chinese companies accounted for 63% of Security 50 revenue

But as far as security is concerned, the U.S.'s punitive measures against China produced minimal impact on Chinese security players—at least for the larger ones.

"Companies like Hikvision and Dahua began restructuring their global supply chains as early as 2018, when U.S.-China trade tensions escalated. By establishing production bases in India, Vietnam, and Brazil, the two companies mitigated tariff impacts," Zhu said. "Additionally, due to ongoing U.S. sanctions, Hikvision

has gradually exited the U.S. market, and Dahua has sold its North American operations. As a result, the latest tariffs have minimal impact on these industry leaders. Other smaller players that rely on the U.S. market but do not have local manufacturing plants, may face increasing challenges from the U.S. trade barriers."

Other companies we spoke with also gave positive outlooks for 2025, despite the global challenges and uncertainties.

"Geopolitical trade barriers present headwinds for industry, particularly around cross-border technology transfer and supply chain resilience. At HID, we navigated these by remaining laser focused on meeting customer needs, investing in localized manufacturing where feasible, and diversifying sourcing partnerships. This has allowed us to remain resilient and continue delivering trusted identity solutions to customers worldwide," said Ramesh Songukrishnasamy, SVP and CTO of HID.

As for what's driving growth for this year, security players cite increased demand and adoption of advanced technologies such as AI. In particular, the so-called "large-scale AI models," which are trained on large datasets and are seen to drastically improve detection accuracy and reduce false alarms, have gained widespread attention in security.

"Large-scale AI is one of the most transformative innovations reshaping physical security today. From intelligent camera analytics to instant video search capabilities, the application of large-scale AI models delivers significant improvements in security protection, business intelligence, traffic management, and more. In line with this trend, Hikvision has launched our Guanlan large-scale models, leveraging these capabilities to deliver advanced intelligence across our new products and solutions. This strategic focus on large-scale AI integration positions us at the forefront of the evolving security landscape," said Allen Tang, VP of Hikvision International Business Center.

Challenges remain

Despite the upbeat sentiment, various challenges remain. One of them is cybersecurity, especially at a time when security devices are more connected than ever and video can be faked or manipulated by AI.

"One of the major challenges in 2025 has been the rise of sophisticated AI-driven attacks that blur the lines between physical and digital breaches. Organizations increasingly understand that effective security cannot compromise convenience, and this is where HID continues to deliver differentiated value in areas of robust technologies and enhanced user experiences," Songukrishnasamy said.

Another key challenge has to do with labor shortage and other related issues. "Staffing shortages, high turnover, and the cost and complexity of training have become some of the biggest barriers for organizations across the industry," said Danille Mitchell, Training Manager for APAC and IMEA at Gallagher Security.

"For us, addressing these people issues has meant leaning heavily into education, training, and partnership. We've focused on providing resources that help fill capability gaps, making expertise accessible, and building long-term trust with customers and partners. By tackling the human side of the industry head-on, we've found we can remove some of the friction that slows adoption and help ensure that technology delivers the value it promises," she added.

Upbeat for 2026

As for next year, security players also expressed upbeat sentiment, saying the momentum gained around advanced technologies such as AI and mobile access control will continue.

"Looking ahead to 2026, I'm optimistic," said Andrew Elvish, VP of Marketing at Genetec. "Investments remain strong, and security professionals are approaching technology with real curiosity and creativity. As AI tools continue to accelerate investigations, and intelligent automation helps security operators gain a unified understanding of activity across systems, we expect growth to continue." ■



One of the most-read and longest-running industry ranking for video surveillance & access control



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Dates announced for Secutech 2026 as AIoT-powered vertical applications shape the show's new vision

The dates are set for the return of Secutech, Asia's leading platform for security, IoT and AI integration. The 2026 edition will be held from 22 – 24 April at the Taipei Nangang Exhibition Center, bringing together around 500 local and international exhibitors to showcase the latest AIoT-driven security innovations and vertical market applications. Building on the strong momentum of past editions, Secutech 2026 will continue to serve as a key hub for business exchange and next-generation smart security technologies.

The global IoT security market is gaining significant traction, forecast to grow at a CAGR of 12.4% and reach USD 61.6 billion by 2028[1] as industries such as manufacturing, logistics and healthcare accelerate adoption in response to escalating cybersecurity risks. In tandem with this global trend, Taiwan's application security market is also expanding rapidly, projected to reach USD 680.9 million by 2025 and nearly double to USD 1.29 billion by 2029[2]. With Taiwan's continued investment in smart city development and next-generation security solutions strengthening its role in the international landscape, Secutech emerges as a key platform for industry players to tap into the rising demand and unlock new business opportunities across both physical and digital security markets.

Asia's booming high-tech and industrial infrastructure presents enormous opportunities for security and smart factory solutions. Major developments in Taiwan, such as TSMC's upcoming 1.4nm Fab 25 and NVIDIA's AI factory and supercomputing center in collaboration with Foxconn, signal significant investment in advanced manufacturing and AI-driven facilities. These high-tech sites inevitably require comprehensive security measures, IoT integration, and smart factory solutions. Secutech 2026 provides exhibitors with a direct gateway to engage with decision-makers, showcase innovations, and capture the growing demand for next-generation security and industrial automation across Taiwan and the wider Asian market. ■

[1] IoT security market analysis with growth forecast during 2024-2032. https://www.taiwannews.com.tw/news/5892732. Retrieved 15 October 2024.

[2] Taiwan Application Security Market Opportunity and Future Growth Dynamics (Databook) - Market Size and Forecast, Spend Analysis by Industry, Security Type, Deployment, and Enterprise Size - Q1 2025 Update

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02 AI applications
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03 Intelligent building & Smart home
Building safety, smart home, environmental sustainable development

04 Smart factory
Industrial facility safety occupational safety

05 Smart fire & Disaster prevention
Firefighting technologies, smart disaster prevention, industrial facility safety & occupational safety

06 IoT cybersecurity
Highlighting essential cybersecurity concerns for connected devices

Global market review and forecast

Security 50 Roundtable: Industry insights from top security companies



Each year we at asmag.com compile the Security 50 report listing the top companies in security and exploring the latest developments in the industry. So how did security fare this year? How do companies adjust themselves to the latest trends? Will growth continue amid challenging market conditions? We invited select major players to share their views in our Q&A sessions, featuring Hikvision, Axis Communications, Hanwha Vision, Raythink, and many others.

Scan the QR code to get insights

Video surveillance market

The video surveillance market is being driven by AI-powered analytics, hybrid cloud–edge architectures, and increasing privacy and compliance needs. In Asia, smart-city projects are pushing edge AI for real-time insights and data-sovereignty, while tighter regulations take center stage in Europe—including the GDPR and AI Act—enticing vendors to offer privacy-by-design, decentralized processing, and transparent model training. America emphasizes hybrid flexibility, enterprise integration, and verified data integrity amid robust demand from sectors like banking, retail, and transportation. Across regions, buyers now demand systems that are intelligent, compliant, and operationally useful.

Scan the QR code to access the report



Access control market

Access control is shifting from doors and badges to data and intelligence. In Asia, large-scale digital ecosystems are fueling rapid adoption of AI and mobile credentials. America has taken the lead in the adoption of cloud and subscription-based models that promise flexibility and insight. Europe, guided by strict privacy and cybersecurity rules, focuses on interoperability and responsible data use. Together, these forces are turning access control into a connected, adaptive layer of enterprise and urban infrastructure.

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Insights into a generational shift in security



AI, cloud, and regulations are reshaping the global security market, according to reports from Memoori, Novaira Insights, and Omdia. As analytics move to the edge and systems integrate across platforms, surveillance is evolving from passive monitoring into an intelligent network that supports insight beyond security. Growth continues worldwide, powered by urbanization, digital transformation, and demand for operational intelligence. At the same time, privacy and cybersecurity frameworks are reshaping how data is processed, stored, and shared. Together, these forces mark a turning point where video becomes a trusted, adaptive layer of connected infrastructure. ■

Scan the QR code to access the full report

2025 Tech Trends Maturity and Suitability Index Survey

The "2025 Tech Trends Maturity and Suitability Index Survey," sponsored by ZKTeco, provided insights into tech trends in video surveillance and access control, including emerging technologies that promise great potential for growth.

BY Editorial Dept.



Large-scale AI

Large-scale AI, which trains on large datasets, has become one of the hottest topics in security. Especially, it is featured in various Chinese video security solutions which are claiming to provide better detection, lower false alarm rates and smarter video search. Yet in our survey, the technology only received moderate scores of 3.98 and 3.49, respectively, for suitability and maturity. Indeed, being new in security, large-scale AI still sees several technical barriers that need to be overcome.

"As our experience suggest, users often perceive these technologies as not yet fully mature. One reason is the need for extensive real-world data to train robust, generalizable AI models, which is a challenge in highly variable, high-security environments. Additionally, especially in mission-critical scenarios, organizations are cautious about relying exclusively on large-scale AI until consistency and transparency are further enhanced," said Hanchul Kim, CEO of Suprema.

Yet in the long run, the technology is expected to see increased adoption.

"Large-scale AI represents a powerful evolution in security where AI systems can learn from massive, diverse datasets across sites, use cases, and conditions. In theory, this allows algorithms to become far more context-aware and adaptive than traditional, site-specific models that are disconnected and in silos. However, in practice, we're still in an early phase," said Philippe Henaine, Manager of Strategic Partners at i-PRO.

He adds: "The technology itself is promising and available, but real-world integration into monitoring workflows remains complex due to factors like latency, reliability, and cybersecurity. Today, vision-language models (VLM) already transform how operators interact with video data, turning complex analytics into proactive insights. Large-scale AI models will follow, enabling cross-site intelligence and predictive capabilities once infrastructure and data governance fully catch up."

AI analytics for business intelligence

On the contrary, AI analytics for business intelligence scored surprisingly high in the survey, receiving 4.33 and 3.87 for suitability and maturity. AI analytics for business intelligence are advanced analytics that can extract actionable insights from video and other types of data. Examples include object detection and tracking, facial recognition, behavior analysis and heat mapping. With such analytics, users can optimize staff allocation, understand customer behavior and detect risks before incidents occur—all of which can help improve the image of their brand, customer loyalty and sustainability. Given these benefits, we can expect strong demand for AI analytics for business intelligence down the road.

Cybersecurity

Cybersecurity scored the top 4.45 and 4.13, respectively, for suitability and

maturity. Indeed, at a time when network devices are increasingly connected and video can be easily faked or manipulated, cybersecurity will only gain more relevance and urgency.

"The risks surrounding cybersecurity today are very real. With the rise of generative AI tools, video footage can be manipulated, stolen, or shared without authorization, putting both organizations and individuals at risk. Protecting video data and being able to prove its integrity has become critical, especially as we generate more data and insights," Henaine said. "Today, all our camera models already meet FIPS 140-2 Level 3 standards, ensuring a high security baseline. Building on this, we are moving toward standardizing the highest level of cybersecurity, FIPS 140-3 Level 3, across our entire lineup by the end of next year. From entry-level to flagship models, every product will feature secure boot and firmware, and advanced encryption for both data and video streams."

"Cybersecurity remains a top priority as threats evolve alongside technology. Customers value security solutions that offer strong, standardized data protection, regulatory compliance, and rapid response to emerging attacks," Kim said.

"Suprema has proactively obtained certifications like CE RED and ISO/IEC 27001/27701, incorporating secure coding, robust encryption, access controls, and continuous monitoring across cloud, network, and device layers," he continues. "Our architectural approach adheres rigorously to privacy-by-design principles, complying with GDPR regulations, the EU AI Act, and NDAA requirements. Investing in advanced cybersecurity is essential not just for regulatory reasons, but to uphold user trust and ensure uninterrupted, resilient operations in an increasingly digital security landscape."

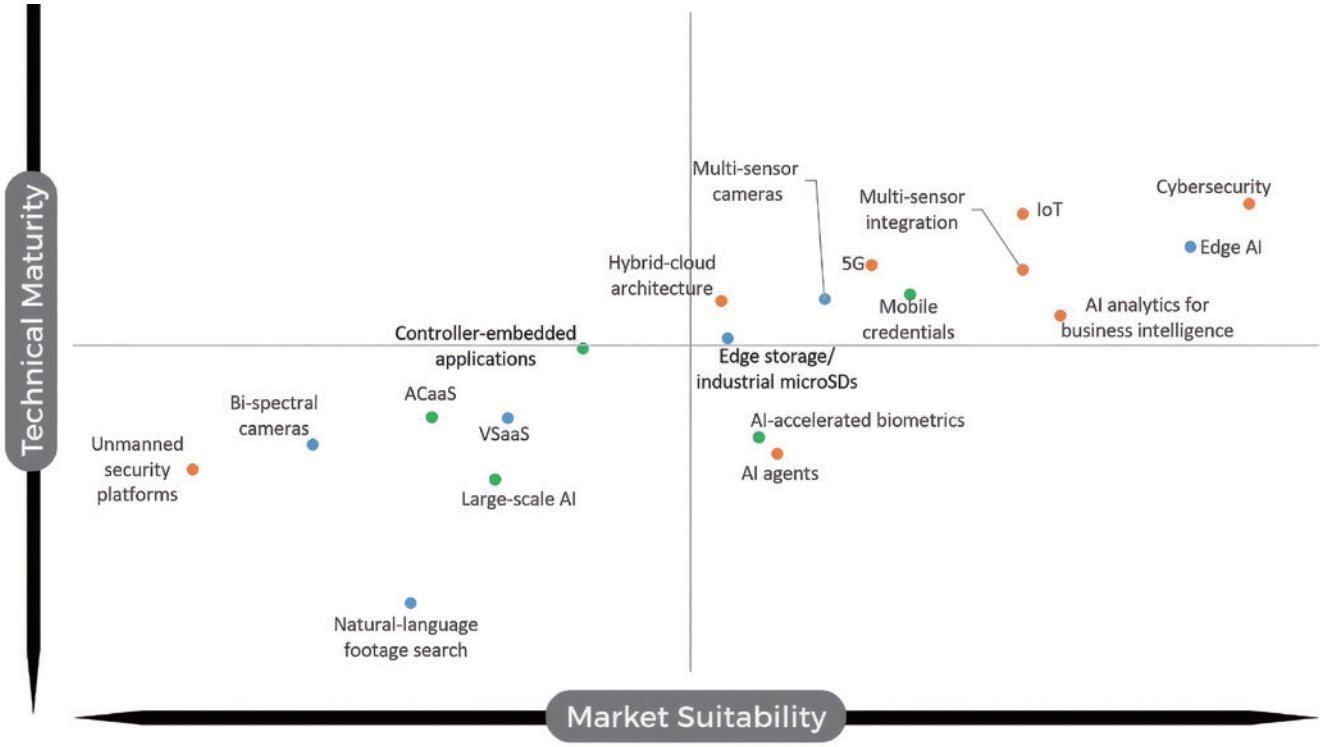
IoT

IoT, or the Internet of Things, also scored highly in the survey, gaining 4.31 and 4.11 in suitability and maturity. Needless to say, today IoT and security are so intertwined it's nearly impossible to separate them. It's because of IoT that security was able to branch off into smart home, smart building, smart transportation, smart retail, smart city and other "smart" applications. When IoT is combined with AI, the resulting AIoT technology plays a critical role in helping users secure premises, gain business intelligence, and boost operational/management efficiency. The impact of IoT on security has been significant, and their influence on each other will only continue.

5G

5G was another top scorer, garnering 4.21 and 3.99 for suitability and technical maturity. This is understandable as 5G increasingly plays a key role in security. 5G allows high-speed data transmission over longer distances than Wi-Fi. This makes it suitable for remote areas or moving objects where laying cables is difficult. In fact, more and more 5G cameras are now available in the market. With 5G becoming more mature and widespread, it will gain more traction. ■

Scan the QR code to access complete survey results for video surveillance and access control technologies.



AI cameras: Making security smarter with edge processing

This article looks at some of the common analytics used in today's AI cameras, as well as technological advances that make running intelligence on the edge possible.

BY William Pao

Powered by AI analytics, modern cameras can help users gain better security and business intelligence. This article looks at some common analytics used in today's AI cameras, as well as technological advances that make edge AI possible. From detecting suspicious objects to recognizing VIP customers at retail stores, AI cameras are seeing more popularity and market acceptance. According to Grand View Research, the global AI camera market was about US$13.93 billion in 2024 and is projected to reach $47.02 billion by 2030, with a CAGR of 21.6%.

Common analytics

Object detection

Most modern security cameras feature AI-based object detection. "This enables them to identify whether something is a person, vehicle, or other object. This capability is commonly used to trigger rules like tripwires or perimeter alerts and to generate metadata that can be used by the video management system (VMS) for tasks like forensic search," said Florian Matusek, Director of AI Strategy and MD at Genetec Austria.

Behavior analysis

Behavior analysis is another common feature. "Today, the majority of edge cameras, including domes, bullets, turrets, and PTZs, can provide highly accurate AI-powered automated functions, such as motion detection, intrusion detection, line crossing detection, loitering detection, and fall detection," said Sean Um, GM and Head of European Business Development Team at IDIS.

Face/license plate recognition

Facial recognition and license plate recognition can help users identify persons of interest and allow cars to enter frictionlessly into car parks, among other features. "While facial recognition and license plate recognition (LPR) are also available on some cameras, those tend to be used in more specialized, vertical-specific applications," Matusek said.

Other features include advanced attribute recognition, enabling systems to flag when a worker doesn't wear the required PPE, for example.

AI as the Great Enabler

Compute power

AI analytics require extensive compute power, and AI cameras increasingly feature advanced systems-on-chips (SoCs) to handle these analytics.

"Many modern IP cameras, particularly those from manufacturers like i-PRO, are built with powerful edge processors designed specifically for real-time AI workloads. They can handle multiple analytics streams concurrently and support containerized applications, allowing end-users to deploy custom or third-party AI tools tailored to their needs," said Adam



Lowenstein, Americas Product Director at i-PRO.

"High-performance IP cameras are now being built using powerful SoCs with integrated neural processing units (NPUs) or even with separate NPU chips (dual-chip architecture). This enables edge devices to support more advanced AI features directly on the camera," Um said. "Most mid-to-high-end IP cameras released in the last few years can run a range of analytics, thanks to improved processing hardware. For the most demanding AI tasks, however, external processing either in the cloud or on specialist NVRs and servers will still be necessary to be effective."

A word on large-scale AI

Some vendors claim their AI cameras "understand" instead of "see" scenes. In reality, however, it is unclear whether today's cameras have enough compute resources to execute large-scale AI features effectively.

"While today's high-end cameras can handle fairly advanced deep learning models for tasks like object detection and classification, they aren't designed to run large-scale or generative AI models," Matusek said. ■

Boost airport perimeter security with these solutions

Airports attach great importance to perimeter security, knowing they may suffer dire consequences in the event of a breach.

BY William Pao



Perimeter security serves as the first line of defense for airports. This article looks at some of the essential security solutions to protect them.

"Airport perimeters present a unique set of security challenges due to their vast size, critical importance, and the variety of threats they face," said Jared Mossman, Account Executive for Airports at Genetec. "Airports must safeguard against unauthorized access, whether by individuals, vehicles, or even wildlife. The consequences of breaches can be severe, ranging from operational disruptions to safety hazards."

Key solutions

Physical barriers such as fences are vital in keeping intruders away from airport perimeters.

"With any security solution, the three primary effects you want are: detect, delay and respond. Physical barriers act as a deterrent but also have a delay effect. Fences at airports are usually anti-climb and … have hostile vehicle mitigation effects built into them," said Noah Price, International Academy Director at G4S.

Intrusion detection systems complement physical barriers at airport perimeters.

"There can be many forms of perimeter intrusion detection systems at the outer edge of airports. This includes fence-mounted or buried cable sensors, microwave barriers and infrared beams," Price said. "Seismic ground sensors are now very sophisticated and can determine the difference between humans and animals. This reduces the frequency of false alarms.

Video surveillance and—especially—AI-powered analytics also play a key role.

"Built-in analytics are essential, especially in low-light environments common near airport perimeters. Thermal imaging technologies can significantly enhance detection in such conditions by providing clear visuals even in complete darkness," Price said.

A big part of the challenge is the size of the area that needs to be secured and surveilled at airports.

"Key security challenges include … detecting suspicious activities, and ensuring the safety of passengers, staff, aircraft, and other assets. Video technology that's integrated with AI addresses these challenges by providing real-time monitoring and alerts that enable operators and ground teams to respond quickly to events, with contextual insights that improve their responses," said Kevin Müller, Sales Director for the Nordics at Milestone Systems.

Meanwhile, Jason Crawforth, CEO of SWEAR, cautions that certain tools are needed to verify the authenticity of video.

"Video surveillance systems are one of the most essential tools at an airport security team's disposal for identifying threats and conducting forensic investigations, yet the rise of AI content manipulation and other video tampering has called into question the validity of surveillance footage, making authentic video content paramount for identifying threats and conducting investigations," he said. "Thankfully, there are solutions available today that can be integrated at the VMS or camera level to provide proof of the authenticity of video and security data, ensuring what you see is what happened."

Conclusion

Due to their complexity, airport perimeters are some of the most challenging environment for security systems.

Mossman suggests airports can look for integrators who understand these challenges and select technology that unifies disparate systems and enhances situational awareness. "Platforms like Genetec Security Center provide a single interface to integrate and manage data from multiple sensors and devices," he said. ■

CP PLUS eyes growth as India tightens security cam rules

Cybersecurity and domestic market incentives are central to tighter regulations.

BY Chris van Laak

As India has begun to implement sweeping cybersecurity rules for IP cameras that see some industry players scratching their heads, the country's largest manufacturer, CP PLUS, is confident the changes will benefit the industry at large.

What you need to know about STQC

The new rules mandate that all IP cameras sold in India undergo testing by Standardization Testing and Quality Certification (STQC), which, in turn, can ban devices that have cyber vulnerabilities such as exposed debug ports and allow for insecure firmware updates and unencrypted data transmission—something Chinese-made cameras, including those by big brands, usually have.

Vendors must demonstrate secure boot, digitally signed firmware and end-to-end encryption, as well as compliance with updated safety standards tested in separate Bureau of Indian Standards labs. There's some coordination between the testing bodies, but essentially two separate applications are required—a potentially cumbersome process for companies that want to enter the market quickly.

Domestic prowess

Aside from keeping cyber-insecure cameras out, the new rules also seek to strengthen "Made-in-India" manufacturing, said Aditya Khemka, Managing Director at CP PLUS.

Under the new rules, manufacturers must prove that at least 25 percent—and eventually 45 percent from FY 2026-27 onwards—of their products, components, assembly and intellectual property are Indian.

The government "will give more privileges to the people who will use more local components," Khemka said, adding that CP PLUS' first STQC-compliant devices entered the market in March 2025, making the company one of the first to achieve this feat, just months before CP PLUS in August launched one of India's most successful IPOs of the year.

Made-in-India as a challenge

The new rules will force smaller players to scramble to boost their domestic capabilities and supply chain links. Some challenges, however, apply to all manufacturers. India is highly dependent on other countries for key components such as image sensors and chipsets, for which it has virtually no domestic manufacturing. Official data from last year show that nearly all camera chipset imports came from China.

While the new rules might not close India's R&D gap overnight, they should at least lay a solid foundation for ambitious companies and push out gray market firms, as well as those that cut corners.

"Many of the known gray market suppliers were also approaching the STQC," Khemka said. "But what they're doing is sourcing their products from outside the country. That's why the STQC introduced a new requirement: After verifying all 30 checkpoints under the Essential Requirements, they would conduct a factory visit."

"It's a sweet spot for us," Khemka said, adding that the large scale of CP PLUS' operation, and the name recognition that comes with it, give the company the edge.

"In the Indian market … the love and the affection which we have as CP PLUS is much more than any other brand," Khemka said. "If you ask any person what surveillance brands they know, you will find that CP PLUS has become a synonym to CCTV across the country." ■



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Intelligence on a new scale: Reader survey on large-scale AI

This is the first article in a two-part discussion of the results of the asmag.com-Hikvision survey, "Intelligence on a new scale," which explored user awareness and early adoption trends of large-scale AI models, which are set to revolutionize smart video surveillance going forward.

BY William Pao



AI is increasingly used in video surveillance for security and non-security objectives. Security-wise, AI can effectively detect intrusion and other suspicious behaviors. It also plays a key role in intelligent transportation, preventive maintenance and other non-security applications.

To boost the power of AI even further, large-scale AI models have emerged. Trained on large datasets, those models promise to enhance detection accuracy, lower false alarm rates, and enable natural language-based smart search. With large-scale AI, video surveillance systems not just see a scene – they can truly understand it.

To get a deeper understanding about the latest AI, asmag.com and Hikvision have teamed up for a survey examining large-scale AI models in video security, focusing on user awareness, adoption rates and the level of importance users attach to the new technology.

Key findings

Adoption rates on the rise

When asked "Are you currently using any products or solutions powered by large-scale AI models for video security," 55 percent of respondents said yes, while 23 percent said no. Interestingly, nearly 20 percent said they were so far not using large-scale AI, but are planning to. The responses highlight a strong adoption rate and growth potential for large-scale AI models. Indeed, with the growing availability of products powered by the technology, such as Hikvision's DeepinView X cameras and AcuSeek NVRs, adoption rates are all but set to increase.

Significant user awareness

To the question "Have you recently seen large-scale AI models and their functionalities being discussed in projects, specs, or client meetings," the responses strongly suggest the topic does come up on such occasions. The numbers are especially prominent for "intelligent object detection and classification," where 57.7 percent say large-scale AI models are "frequently discussed" or "actively influencing decisions." This is followed by "automated security event detection and reporting" (57.1 percent) and "improved perimeter protection" (55.4 percent). The numbers highlight strong user awareness towards large-scale AI, including among customers.



Understanding the potential

When asked if they are confident about understanding the difference between large-scale AI models and conventional AI, 32.5 percent said they are "confident" and 15.6 percent "very confident." The numbers are 28.3 and 22.8 percent, respectively, when it comes to understanding the differences between the two in terms of workflow benefits of the technology.

Recognizing the importance of large-scale AI

To the question "How important do you think is adopting the latest large-scale AI models to the future of video security," a significant 52.4 percent say it is "very important," while 25.9 percent say it's important. 18 percent, meanwhile, say it's "moderately important." This indicates users see large-scale AI models no longer as a mere "nice-to-have" but increasingly consider them essential.

Majority see clear operational value

When asked "What value do you see in the emerging deployments or applications of large-scale AI models in video security so far," 73.4 percent cited "improved operational efficiency." This is followed by reduced human error (62 percent), better end-user experience (55.4 percent), and cost reduction (52.4 percent).

Indeed, large-scale AI models can effectively detect abnormalities and issue alerts accordingly, improving efficiency for operators who can focus on more important matters at hand. Large-scale AI models maintain constant vigilance 24/7 without declining performance, avoiding errors that humans may make. Large-scale AI allows users to conduct search using natural language, for example saying "show me all instances of a red car entering Zone A yesterday." This significantly boosts the user experience.

Hikvision's large-scale AI products

Taking the lead in large-scale AI

A leading provider of video-based AIoT solutions, Hikvision has launched its large-scale AI models, called "Guanlan." Already, Guanlan has found its way into a variety of Hikvision products.

When asked "Which large-scale AI-powered Hikvision products are you using or evaluating at the moment," 75.6 percent cite AcuSeek NVRs. This is followed by 70.6 percent for DeepinViewX cameras and 68 percent for traffic cameras/servers powered by large-scale AI. DeepinViewX cameras, powered by Guanlan, can distinguish real threats from harmless activities, such as moving tree shadows, small animals, or bright lights, allowing security teams to focus on actual problems instead of dealing with false alarms. The AcuSeek NVRs, meanwhile, leverage Guanlan to establish cross-modal text-image comprehension capabilities, powering natural-language search.

For those using or evaluating Hikvision products powered by large-scale AI models, a large majority of 72.9 percent gave overall positive feedback. This includes 37.1 percent who say the products are "very useful" and 35.8 percent saying they are useful – numbers that give testament to the quality and performance of Hikvision's Guanlan-enabled products.

As for which Hikvision Guanlan product features respondents are most interested in, over half, 53.5 percent, chose smart object detection and classification. This is followed by more accurate perimeter protection with fewer false alarms (38.5 percent), text-based video search (33.5 percent), intelligent traffic management with much lower false detection rate (32.8 percent), intelligent alarm setup (30.7 percent) and large-scale AI deployment across multiple devices (22.8 percent).

Conclusion

Our findings clearly show that large-scale AI is gaining momentum. With over half of respondents already deploying the models and nearly 20 percent planning to adopt them, the trend is undisputable: large-scale AI is moving from a mere concept to an operational reality.

In a companion piece to this article, you can find out about pain points that users expect to see alleviated by large-scale AI and verticals where they expect significant impact, as well as challenges that remain to the widespread adoption of the models: ■

Scan the QR code for more survey insights.



Dahua unlocks the future of video security with Xinghan

Dahua Xinghan Large-Scale AI Models position the company as a vanguard in large-scale AI adoption.



BY William Pao and Chris van Laak

A leader in intelligent IoT centered around video, Dahua has stunned the security audience with an upgraded version of their Xinghan Large-Scale AI Models earlier this year, combining multimodal capabilities and industry knowledge to make video surveillance more intelligent than ever.

"During the industry's digital and intelligent transformation, AI technology still faces challenges. While algorithm accuracy has reached high levels in some areas, demands for adaptive intelligence across complex, dynamic scenarios and higher accuracy continue to rise… With advancements in large model technology, Dahua launched the Xinghan Large-Scale AI Models to address these issues," said Frank Fang, Overseas Product Director at Dahua.

Key differentiators

- From accuracy to precision: Enhancing detection in extreme conditions, for example tiny targets, blurry images and strong backlighting
- From customization to generalization: Greatly shortening the development cycle for custom algorithms
- From recognition to comprehension: Supporting not only routine behavior recognition but also understanding complex multi-target interactions
- From static to dynamic: Overcoming limitations of static rule configurations to enable autonomous scene parsing and dynamic adaptation

Three tailormade models

Debuted in 2023, Xinghan continues to evolve by combining multimodal intelligence and deep domain expertise. This development has led to three core series under Xinghan: Xinghan Vision Models, (vision-centric intelligence), Xinghan Multimodal Models (multimodal-fusion capabilities), and Xinghan Language Models (language-driven interaction).

The Xinghan Vision Models are featured in certain Dahua IPC and PTZ cameras. Since large-scale models typically reside on servers, deploying Xinghan on edge devices requires minimizing model size and advanced training.

"First, we enable the algorithm to undergo unsupervised training using hundreds of millions unlabeled data, resulting in a massive pre-trained model that is extensive and diverse, broad but not precise," said Xiangming Zhou, R&D Expert at Dahua. "We then employ supervised training with labeled task-specific data to develop our expert task model. We further perform knowledge distillation, fine-tuning, and quantization on the expert task model."

Technologies enabled by Xinghan include Perimeter Protection (boasting 98% detection rate); WizTracking (reliably tracking individuals in complex scenarios, including occlusion); and Crowd Map (detecting up to 5,000 persons in real-time).

Intuitive interaction

Xinghan enables users to interact with their security system intuitively. Instead of navigating rigid menus during forensic investigations, they can simply type a query like "man in blue jacket near the gate" and receive the corresponding footage instantly.

This feature—enabled by WizSeek—greatly simplifies the workflow of security teams by making an often-used feature as intuitive as asking a colleague for help.

Similarly, text-defined alarms supplant time-intensive algorithm training. Users can type, for example, "alert me when unknown person enters the restricted zone." The system deploys the rule immediately, cutting alarm setup time from weeks to under a minute.

Conclusion

With Xinghan, video surveillance has evolved from seeing a scene to understanding a scene. Dahua shows to the world what next-generation AI can do, and again proves itself as a leader in advanced AI technologies. ■

Scan the code to find out more about Dahua Xinghan Large-Scale AI Models.

Smart buildings need smart storage solutions

IoT integration requires smarter security cameras and robust edge processing and storage.

BY Editorial Dept.



The smart building trend is continuing, driving growth in the market from $151 billion in 2025 to an estimated $570 billion or more by 2030. New projects feature IoT infrastructures that integrate many different sensors, as do an increasing number of older buildings that have been retrofitted.

The trend goes far beyond adding sensors, though—it drives growth in the market for many components that are part of intricate IoT infrastructures, including storage devices such as microSD cards tailored to the highest standards by Micron.

Smart and efficient

As the smart building trend increasingly coincides with sustainability and energy-efficiency needs, AI-driven optimization is becoming central to commercial real-estate projects, which increasingly feature climate control sensors that regulate heating, AC, smart shades and much more.

Cameras—the IoT heavy lifter

Central to many IoT systems is a device that has been part of commercial real estate before buildings first turned smart: The humble security camera, nowadays often powered by the latest AI.

Not only when it comes to climate controls, cameras play a central role. For example, access control systems also rely heavily on their integration. In many deployment scenarios, cameras can even supplant other devices that were previously needed in IoT deployments. At older sites, a simple camera update might thus result in a significant leap into the smart building space—a boon for building managers. This reduces the number of additional devices that are needed to turn a building smart, and helps avoid the common problem of hardware clutter.

Other advantages of smart infrastructures that use cameras whenever possible, and only rely on specialized devices for functions that cameras cannot do, are easier upgrades and maintenance. A limited number of connected endpoints can also reduce cybersecurity risks.

Higher data volume

Cameras, however, generate far more data than other IoT devices. While standalone sensors for temperature, humidity and airflow may transmit only a few kilobytes per day to an IoT gateway, a single 4k camera can produce over 20 GB daily.

That volume includes video footage as well as metadata, such as event tags, time stamps, object detection logs and behavior flags—all of which are being used to enable the functions commonly associated with the term "smart" in smart building. Unlike video streams, metadata is written in bursts, for example when complex events are being captured. The camera's write operation might increase manifold.

Overall, AI-enabled cameras boast a 10 times larger share of random write operations, comprising up to 50 percent of their data, according to Micron lab tests. In legacy cameras, only up to 5 percent of the data volume might be non-video data.

Nonstop for up to 5 years

Micron's industrial microSD cards, which feature up to 1.5TB storage, are designed for up to five years of high-quality 24/7 recording in an environment where consumer-grade cards would fail within months. Micron cards come with 2 million hours mean time to failure (MTTF) and an annualized failure rate (AFR) of only 0.44 percent.

Every part of a smart building needs to be up to the task at any time, starting with the most elemental components. Despite their tiny form factor, Micron's industrial microSD cards can do the heavy lifting 24/7 for years on end. ■

Gallagher unlocks security-plus

The company's security systems can do more than provide security—thanks to a continuous cycle of listening, building, and refinement in collaboration with customers and partners.

BY Chris van Laak

For many decades, organizations regarded security systems as necessary expenses—tools to prevent loss and mitigate risk, but not as sources of measurable value. Even if they performed flawlessly, they rarely appeared on the positive side of the balance sheet.

This is changing, thanks to new technologies and smart applications addressing challenges that were previously beyond the domain of security. Organizations increasingly see the systems—especially those designed to offer more than security—as value drivers.

Gallagher Security stands at the forefront of this transformation. Guided by customer-led innovation, the company has reimagined what security systems can contribute.

From preventing losses to creating value

Streamlined and smart

Access control, intrusion detection, and perimeter protection systems have traditionally been viewed as separate from the systems that drive organizational value.

Thanks to advancements in security technology, however, integrated security systems have quietly become the champions of handling data that organizations need to streamline operations, improve employee experiences, and make smarter business decisions.

Streamlining operations commonly means using systems and processes to reduce complexity, automate routine tasks, and optimize resource allocation. Gallagher designs Command Centre, the platform at the center of all Gallagher architectures and solutions, with these principles in mind. By unifying integrations and functionality into a single, easy-to-use management interface, Command Centre helps customers reduce the resources needed to operate securely, and alleviates administrative burdens outside of the security domain, from onboarding and offboarding employees to scheduling building access or integrating with HR, visitor management, and facilities systems.

Interaction with Gallagher Security's system is designed to reduce friction within daily workplace routines. Smart phone-based mobile credentials for access control, for example, can also authenticate employees for Wi-Fi access, enable them to book rooms, and even access community newsfeeds, turning security into a hub for daily workplace interactions.

At the leadership level, Gallagher provides organizations with the data they need to improve space utilization, workforce planning, demonstrate compliances, and many other tasks. A high-impact domain of increasing importance is energy management, where Gallagher helps their customers save on utility bills and achieve their sustainability goals.

Integrated with existing climate control infrastructures, Gallagher Security's solutions can automatically adjust



> "We've seen customers leverage our systems to cut energy bills, lower insurance premiums, protect historic architecture, improve air quality, and maintain hospital operations during cyberattacks. Security is no longer just about prevention - it's about enabling resilience, efficiency, and smarter business comes."
>
> *Joe Fan, regional Marketing Manager Asia, Gallagher Security*

lighting, heating, and cooling of corporate spaces. This alone has already helped some of their customers generate ROI within six to 24 months.

Unlocking value ahead

A core tenet of the Gallagher philosophy is customer-led innovation. Through a continuous cycle of listening, building, and refinement, Gallagher tailors solutions to customers' needs, which also enables them to develop systems that address pain points that affect many organizations from the start.

OneLink, for example, helps organizations link remote sites to their central security infrastructures. Previously, this required a VPN connection that needed to be set up individually, undergo regular maintenance, and run frequent updates to ensure functionality and cybersecurity. With OneLink, remote-site connections become plug-and-play links between Gallagher controllers on either side. Once established, OneLink enables secure, real-time communication across the whole network.

Combined with OneLink, other Gallagher solutions, such as Command Centre Web and AccessNow, enable organizations to manage remote-site infrastructures as effectively as their central locations.

Command Centre Web offers credential management and enables administrators to manage access permissions remotely without the need for a full workstation setup. This flexibility is particularly beneficial for organizations with multiple sites or remote locations connected with each other via OneLink.

AccessNow extends this functionality by providing mobile access to multi-site security systems, allowing users to manage access and receive alerts on-the-go.

Real-world impact

Tracking student attendance

James Cook University in Singapore was faced with new regulations that mandate daily attendance tracking for visa and accreditation purposes, while student needs in the post-COVID-19 era moved towards safe and hygienic contactless solutions. To address this multitude of challenges across its whole campus, the university selected Gallagher to provide a unified solution for contactless, real-time attendance and access control.

Gallagher's Single Door Controller 7000s and T15 Readers were installed campus-wide, enabling the university's over 4,000 students to check in with their mobile credentials through their smartphones. Attendance data is synced in real-time with the university's custom-built portal, allowing administrators and faculty to access hourly reports instead of less detailed, daily reports generated by the previous system.

The Gallagher readers have achieved an impressive 99.98% availability rate, ensuring near-continuous access for students and staff across all entry points and reducing administrative overhead.

Fully integrated resort

In the expansive Okada Manila resort, often described as a city unto itself, security management posed significant challenges due to the size and diversity of the property. Gallagher Command Centre allowed Okada Manila to integrate multiple systems—such as electronic key management, guest room access, and lift operations—into a single, cohesive platform.

The resort adopted a one-card system, simplifying access control and data collection. This integration has optimized site management, reduced unauthorized incidents, and enhanced operational efficiency, making security oversight more manageable and effective.

The implementation of Gallagher's Locker Management Solution reduced staff theft incidents to nearly zero, virtually eliminating a long-standing pain point for both the business and its employees.

Centralized system—faster responses

As one of Thailand's largest hospitals, King Chulalongkorn Memorial Hospital required a robust security solution to manage its vast site and meet strict compliance standards. Switching to Gallagher's Command Centre, the hospital integrated access control, video management, building automation, and fire alarm systems into a single platform.

Centralization allows the hospital to ensure rapid response times and enhance patient and staff safety. With more than 10,000 users with access credentials, the hospital found a partner in Gallagher that enabled it to maintain validated access control, guarantee efficient operations, and reduce overall security costs.

Conclusion

The future is security-plus

Systems that offer value beyond security are essential for addressing the complex needs of modern organizations. By unifying different tasks, Gallagher enhances security, improves operational efficiency, and provides actionable insights.

Gallagher remains at the forefront of security innovation, constantly evolving their products to meet emerging trends that unlock customers' full potential. Gallagher solutions are designed to grow with their partners, ensuring long-term success. ■

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