

The Future of Private Security: Economic Impacts of Security Guard Integration Surveillance Technologies and Artificial Intelligence in the United States

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Surveillance Technologies, and Artificial Intelligence in the United States*

Author: Gelbis de Souza Junior

Graduated in Economics from the Catholic University of Brasília.

Summary

Private security is undergoing a profound transformation, driven by the integration of trained security guards, surveillance technologies, and artificial intelligence (AI) systems. This article analyzes how the convergence of the human factor and technological advancement can redefine the sector, especially in the United States, where private security already represents one of the largest global markets. It highlights the importance of balancing the security guard, as a critical decision-maker, with emerging technologies such as biometrics, big data, and predictive software. Furthermore, the study emphasizes the economic implications of this integration for companies, governments, and investors, considering the impact on job creation, operational efficiency, and the reduction of the social costs of crime.

Keywords: Private security. Artificial intelligence. Technological surveillance. Economy. United States.

Abstract

Private security is undergoing a profound transformation driven by the integration of trained guards, surveillance technologies, and artificial intelligence (AI) systems. This article analyzes how the convergence between the human factor and technological advancements can redefine the sector, particularly in the United States, where private security already represents one of the largest global markets. It highlights the importance of balancing security guards as critical decision-making agents with emerging technologies such as biometrics, big data, and predictive software. Furthermore, the study emphasizes the economic implications of this integration for companies, governments, and investors, considering its impact on job creation, operational efficiency, and the reduction of the social costs of crime.

Keywords: Private security. Artificial intelligence. Surveillance technology. Economy. United States.

1. Introduction

Private security is undergoing an unprecedented transformation, driven by advances in digital technologies and the growing demand for more effective services in a globalized and interconnected world. The convergence of human security guards and technological tools such as artificial intelligence (AI), big data, and biometrics redefines not only the way it operates but also the strategic role of this sector in the economy and society. This change occurs in a context in which crime takes on increasingly sophisticated forms, demanding faster, more precise, and economically sustainable responses. In this sense, private security is no longer a segment restricted to patrolling and physical surveillance, but is assuming a central position in integrated protection systems.

In Brazil, until September 2024, the sector's legislation was governed by Law No. 7,102/1983, which primarily addressed banking security and the transportation of valuables. However, with the enactment of **Law No. 14,967/2024**, published on September 10, 2024, the **Private Security Statute came into effect**, completely repealing the previous law. This new legal framework expands, modernizes, and more comprehensively regulates private security, incorporating not only the transportation of valuables and property surveillance, but also new forms of operation in light of technological integration and the need for stronger governance in the sector.

The objective of this article is to analyze how the integration of trained security guards and cutting-edge technologies can transform private security, focusing on the United States market, one of the most representative and dynamic in the world. The article seeks to highlight the economic implications of this convergence, both for companies and for governments and investors, emphasizing that technology does not replace the human factor, but rather enhances it. In this new ecosystem, the security guard ceases to be merely an executor of repetitive tasks and becomes a critical decision-maker, capable of interpreting complex data and acting in synergy with technological systems.

The United States was chosen as the focal point because it is home to one of the largest private security industries on the planet, with annual revenues exceeding tens of billions of dollars. Furthermore, the US stands out for its pioneering adoption of advanced technologies, the presence of multinational companies in the sector, and its geopolitical relevance, making its experiences a global benchmark. At the same time, the North American market reflects the dilemmas that human-technology integration poses, such as ethical, legal, and social issues that require in-depth discussion.

The justification for this study is also anchored in the economic importance of the private security sector as a source of jobs, tax revenue, and investment. It is estimated that in the United States alone, more than one million security guards are formally employed, working in areas as diverse as shopping malls, hospitals, ports, and airports. The incorporation of modern technologies does not mean a reduction in these numbers.

positions, but rather the reconfiguration of functions, demanding new, more qualified professional profiles adapted to the demands of the 21st century.

From a social perspective, the integration of security guards and technology represents an opportunity to increase the population's sense of security, reduce the indirect costs of crime, and strengthen trust in public and private institutions. The presence of security guards supported by AI, biometrics, and big data systems enables faster and more accurate responses to incidents, in addition to creating safer environments in high-traffic areas. However, it also raises debates about privacy, mass surveillance and algorithmic discrimination, topics that need to be analyzed with balance and depth.

The introduction to this article, therefore, positions private security as a strategic sector that articulates technology, economy, and society, within a regulatory framework that in Brazil is now governed by the Private Security Statute (Law No. 14,967/2024). More than a corporate issue, it is a matter of public and global relevance, involving governments, companies, workers, and citizens.

2. Digital Transformation and Private Security

Digital transformation directly impacts how private security is planned, executed, and evaluated. Digitization expands the capacity for monitoring, analysis, and incident response, making processes more efficient and less susceptible to human error. Technologies such as smart cameras, motion sensors, facial recognition, and predictive analytics software are already a reality in several North American cities, integrating into the work of security guards. This movement shifts the focus of private security from a predominantly reactive approach to a preventative model, in which data and algorithms guide strategic decisions.

Artificial intelligence stands out as one of the most disruptive technologies in this process. Machine learning algorithms are capable of identifying suspicious patterns in crowds, predicting incidents, and optimizing the allocation of human and material resources. By integrating these tools into security guards' daily lives, a hybrid ecosystem is created in which humans and machines complement each other. In the United States, cities like New York and Los Angeles are already experimenting with AI-powered monitoring systems, implemented in high-traffic areas such as subway stations and shopping malls.

Another significant advancement is the use of big data in security management. Collecting and analyzing large volumes of information makes it possible to understand crime patterns, map risk zones, and anticipate vulnerable situations. This approach allows companies and public agencies to plan more efficient strategies, optimize costs, and strengthen prevention. Big data, combined with georeferencing systems, is already used in the United States to monitor major sporting and cultural events, assisting with logistics and crowd protection.



Biometrics also plays a central role in the digital transformation of private security. Facial recognition and fingerprint or iris identification are already used in airports, businesses, and residential complexes, ensuring greater accuracy in access control. This technology reduces reliance on traditional methods, such as badges or passwords, which can be easily forged or shared. In the United States, international airports such as Atlanta and Miami have implemented biometric systems integrated into immigration and passenger boarding, increasing operational efficiency and security.

Digitalization also promotes changes in the economic model of private security. Adopting modern technologies requires significant investments in equipment, software, and personnel training. However, these costs can be offset by efficiency gains, loss reduction, and increased value of protected assets. Companies that invest in digital security solutions tend to stand out in the market, attracting clients seeking more reliable and secure environments.

Despite the advances, digital transformation brings with it challenges that cannot be ignored. Excessive reliance on technology can create vulnerabilities, such as cyberattacks that compromise monitoring and access control systems.

Furthermore, the use of AI and biometrics raises ethical issues related to privacy, data storage, and the risk of algorithmic discrimination. These dilemmas need to be addressed through clear regulations, data protection policies, and ongoing training for the professionals involved.

In short, the digital transformation of private security represents not only the introduction of new tools, but a structural change in the sector. The combination of human security guards and digital technologies redefines processes, increases efficiency, and generates significant economic impacts. However, these advances will only have lasting positive effects if they are accompanied by appropriate regulation, consistent investment, and an appreciation of the human factor.

3. The Role of the Watchdog in the Technological Ecosystem

The presence of technology in private security often sparks debate about the possibility of replacing human labor with machines, software, or artificial intelligence systems. However, critical analysis shows that, although technology exponentially expands surveillance and monitoring capabilities, the security guard remains irreplaceable as an agent of interpretation, decision-making, and strategic action.

Algorithms can detect suspicious patterns and identify potential threats, but it is the human professional who contextualizes the information, considers subjective factors, and makes decisions aligned with ethics, human rights, and cultural specificities.

In the United States, experiences at airports and urban centers demonstrate that the effectiveness of security does not lie in replacing the security guard, but in its integration with

Intelligent systems. Facial recognition cameras can identify a wanted individual, but it's up to the security guard to validate the information, assess the risks of approaching, and conduct the process to minimize collateral damage. This balance between machine and human ensures that the technology doesn't operate in isolation, but rather as a tool to support human decision-making.

The complexity of contemporary threats demands from security guards cognitive and socio-emotional skills that go beyond traditional technical training. Critical interpretation of data provided by predictive software requires logical reasoning, strategic thinking, and the ability to exercise judgment under pressure. Furthermore, interacting with the public demands empathy, assertive communication, and conflict mediation—skills that no technology can replace.

Another relevant point is that technology, by automating repetitive tasks, frees up security guards for higher-value tasks. Activities such as continuous camera monitoring, which can be tiring and prone to human error, can be performed by automated systems. Security guards can then focus on analyzing critical situations, making strategic decisions, and coordinating with other public and private security actors.

The integration of surveillance and technology also directly impacts society's trust. People tend to accept surveillance systems more readily when they perceive human oversight, capable of ensuring the ethical and responsible use of the collected data. This aspect is especially relevant in debates about privacy and algorithmic discrimination. The surveillance agent acts as a guarantee that the technology will not be used arbitrarily, but rather within legal and ethical parameters.

From an economic perspective, the increased value of the human role in the technological ecosystem generates important implications for the job market. The demand won't be for fewer security guards, but for better-qualified professionals with digital, cognitive, and social skills. This opens the door to training programs, frequent retraining, and partnerships between security companies and educational institutions.

In short, the role of security guards in the technological ecosystem is complementary and antagonistic, not substitutive. The private security of the future will depend on the ability to integrate machines and humans into a balanced, efficient, and socially legitimate system.

4. Economic Impacts of Human-Technology Integration

The integration of security guards and advanced security technologies generates profound economic impacts, both at the micro-level, within companies, and at the macro-level, within the national and global economy. The first impact is seen in operational costs: the adoption of technologies such as smart cameras, predictive analytics software, and biometric systems requires significant infrastructure investments. However, these costs

Initial costs tend to be offset by efficiency gains, reduced human error, reduced asset losses, and increased value of protected assets. This logic transforms private security into a strategic investment, not a mere operational cost.

In the United States, where the sector generates billions of dollars annually, human-technology integration is already reflected in the appreciation of security companies in the financial market. Companies that invest in technological innovation tend to attract more clients and investors, as they convey greater trust and credibility. This trend also impacts the real estate and corporate markets, as projects with state-of-the-art security systems are more valued and attractive to investors.

Another significant economic impact is the creation of skilled jobs. Although automation replaces some repetitive functions, it creates new demands for professionals with digital and analytical skills. Security guards need to be trained to operate advanced technologies, interpret reports, and work in synergy with intelligent software.

This reconfiguration of the labor market contributes to the formalization and valorization of the profession, generating opportunities for social advancement for thousands of workers.

In addition to job creation, technological-human integration strengthens related production chains, such as the software, hardware, telecommunications, and artificial intelligence industries. The private security sector drives demand for technological innovations, stimulating research, development, and the export of solutions. This movement dynamizes the economy, creates new markets, and positions private security as a driver of economic growth.

From a government perspective, human-technology integration can save public resources. Intelligent systems, by preventing crime and optimizing the allocation of security resources, reduce spending on law enforcement, the prison system, and public health. In the United States, studies indicate that investments in technological prevention can generate significant returns in the medium term, reducing the social cost of crime.

However, the economic impacts are not exclusively positive. The high cost of implementing technologies can exclude small and medium-sized security companies, concentrating the market in large corporations. This concentration risk threatens business diversity and can reduce the sector's competitiveness. Furthermore, dependence on imported technologies can create economic and sovereignty vulnerabilities, a topic also present in regulatory debates in Brazil following the enactment of **Law No.**

14.967/2024, which brought more modern rules on licensing, training and operations of private security companies.



5. Case Studies in the United States

Analyzing case studies in the United States provides a concrete understanding of how the integration of security guards, surveillance technologies, and artificial intelligence is transforming private security. The country, home to one of the largest security markets in the world, has become a laboratory for the application of technological solutions in various sectors, always in collaboration with trained security guards.

At North American airports, especially in international hubs like Atlanta, Dallas, and Miami, the use of facial biometrics has already become standard in boarding and immigration procedures. These AI-based systems enable rapid passenger identification, reducing queues and increasing operational efficiency. However, the security guard's role remains central, whether validating data or dealing with technological inconsistencies or conflicts with passengers.

Another significant example is found in large retail chains, such as Walmart and Target, which use big data systems and smart cameras to prevent theft and organize customer flows. Security guards work in conjunction with software that analyze behavior patterns and alert to suspicious situations. This integration reduces financial losses, improves the customer experience, and creates a safer environment.

In the sporting and cultural events sector, integration is also evident. NFL stadiums and NBA arenas employ security guards supported by real-time monitoring systems capable of mapping crowds and identifying potential risk situations. AI software analyzes abnormal behavior and guides the actions of field personnel, optimizing resources and preventing incidents.

North American ports, responsible for a large portion of international trade, also incorporate advanced technologies in partnership with security guards. Sensors, drones, and smart cameras monitor vast areas, while professionals interpret data and coordinate rapid responses to emergency situations. This integration helps prevent smuggling, detect intrusions, and ensure the fluidity of logistics operations.

Hospitals and healthcare institutions are another field where integration has proven crucial. The increase in cyberattacks and the need to protect sensitive data have led to the adoption of advanced technological systems. However, security guards continue to play an essential role in the physical safety of patients, staff, and visitors. In the United States, large hospitals such as the Mayo Clinic and Johns Hopkins Hospital employ integrated models that combine digital and in-person surveillance.

These examples reinforce the thesis that technology doesn't replace security guards, but rather redefines their roles, expanding their responsibilities and requiring ongoing training. At the same time, they demonstrate that the economic and social impacts of this integration extend beyond asset protection, encompassing operational efficiency, asset appreciation, and public trust.

6. Ethical, Legal and Social Challenges

The integration of security guards and surveillance technologies, while bringing significant advances, raises ethical, legal, and social challenges that cannot be overlooked. The first of these concerns privacy and personal data protection. The use of facial biometrics, recognition software, and big data systems requires the massive collection of sensitive information, which can be misused without clear regulation and effective oversight. In the United States, debates over legislation such as the *California Consumer Privacy Act (CCPA)* reveal the urgency of establishing ethical and legal limits.

Another ethical challenge is the risk of algorithmic discrimination. Artificial intelligence algorithms can reproduce biases present in the databases used in their training, resulting in selective or unfair approaches against certain groups.

social. Cases of flaws in facial recognition systems, which mistakenly identified Black or Latino people as suspects, have sparked intense debate in the United States.

From a legal perspective, integration also demands more robust regulations. In Brazil, the enactment of **Law No. 14,967/2024** (Private Security Statute) brought greater regulatory clarity to the sector, replacing the former Law No. 7,102/1983. This update seeks to harmonize the use of new technologies, establish minimum standards for training and performance, and, at the same time, strengthen the protection of fundamental rights.

The social impact of technological surveillance also deserves to be highlighted. The feeling of being constantly monitored can generate discomfort and insecurity among the population, especially when there is a lack of transparency regarding the objectives and limits of surveillance. This phenomenon, known as the "panopticon effect," can undermine trust in institutions. To avoid this effect, it is essential that there is clear communication with the population and that human oversight is always guaranteed.

Another sensitive issue is the precariousness of work. The adoption of technologies without adequately recognizing the human factor can lead to the deskilling of security guards and the concentration of the market in large corporations. This process threatens not only the diversity of the sector but also the quality of service.

In short, the ethical, legal, and social challenges of human-technology integration in private security are as significant as the economic and operational benefits. The future of the sector will depend on the ability to reconcile innovation with ethics, efficiency with human rights, and technology with a focus on the human factor.

7. Perspectives for Governments and Investors

The integration of surveillance, surveillance technologies, and artificial intelligence not only impacts the private sector, but also opens up new perspectives for governments and investors. From the perspective

From a government perspective, private security is consolidating itself as a strategic partner, capable of complementing public security efforts and reducing the social costs of crime. In the United States, this partnership is already evident in cooperation programs between private companies and local authorities, especially in airports, ports and large events.

The economic perspective is equally relevant for governments. The adoption of smart technologies in private security contributes to reducing spending on law enforcement, the prison system, and public health, as prevention becomes more effective. Studies conducted in North American cities show that every dollar invested in technological prevention programs can generate multiple dollars in savings for public coffers. This logic reinforces the importance of public policies that encourage partnerships between the private sector and the government.

For investors, private security represents a sector with high growth potential. The North American market already generates billions of dollars annually, and accelerated expansion is expected in the coming years, driven by digitalization. Companies that develop or adopt innovative solutions, such as predictive analytics software, biometric systems, and integrated monitoring platforms, become more attractive to investment funds and shareholders.

Beyond the profit potential, there's also the prospect of positive social impact, which increases the interest of investors aligned with ESG (*Environmental, Social, and Governance*) criteria. Security companies that adopt ethical practices, respect privacy, and value the human role stand out in this new paradigm, attracting capital from funds that prioritize social responsibility and governance.

Governments, in turn, need to create a regulatory environment that balances innovation and social protection. In Brazil, **Law No. 14,967/2024 (Private Security Statute)** is a milestone in this regard, providing clearer and more modern standards for companies, professionals, and the use of technologies. This regulation offers greater predictability to the sector and strengthens investor confidence, in addition to expanding integration with public security policies.

8. The Future of Global Security and the United States as a Benchmark

The future of global security will increasingly be shaped by the integration of human security guards and digital technologies, and the United States stands out as a leader in this process. Because it boasts one of the largest private security markets in the world, the country serves as a showcase for trends that are likely to expand globally.

North American influence is also due to the country's geopolitical weight, which acts as an exporter of security technologies, methodologies, and models. Security companies and

US-based technology companies provide solutions for various countries, contributing to the dissemination of practices that are consolidating themselves as global references.

In the context of globalization, security challenges do not respect national borders. Threats such as terrorism, cybercrime, drug trafficking, and irregular migration flows require coordinated responses at the international level. In this context, the US experience can serve as a guide for the creation of minimum global standards for surveillance training and technology use, provided it is coupled with dialogue with other powers and regional blocs.

The future of global security will also depend on the ability to balance technological innovation with democratic values and human rights. The risk of mass surveillance and algorithmic discrimination threatens the legitimacy of private security, requiring countries to establish clear ethical boundaries. Valuing the human factor, represented by the surveillance agent, will be central to ensuring that technology is used responsibly.

Another important aspect is the sector's consolidation as a driver of economic development. The security industry generates billions of dollars and millions of jobs worldwide, and is increasingly seen as a strategic investment area. The United States, by combining cutting-edge technology and qualified security guards, offers a model for how private security can streamline production chains, stimulate innovation, and attract investor capital.

On the other hand, risks such as market concentration in large corporations and the technological dependence of some countries need to be monitored. The challenge will be to ensure that technological advancements do not compromise corporate diversity, the protection of fundamental rights, and the social legitimacy of private security.

Conclusion

The study on the economic impacts of the integration of security guards, surveillance technologies, and artificial intelligence in the United States demonstrated that the private security sector is undergoing a structural transformation. This change is not limited to operational aspects, but also involves economic, social, and political dimensions.

From an economic perspective, human-technology integration presents itself as a strategic investment for companies and governments. Although it requires high initial costs, it generates significant returns in the medium and long term, through the reduction of asset losses, the optimization of resources, and the appreciation of protected assets. In the United States, where the private security market generates billions of dollars, this integration is already beginning to attract investors and reposition the sector as an innovative and highly profitable field.



An analysis of case studies in airports, ports, hospitals, stadiums, and large retail chains provides a concrete illustration of the application of this integration. In these situations, technologies such as biometrics, big data, and AI increase security effectiveness, but only when supervised by trained security guards.

However, ethical, legal, and social challenges pose significant obstacles to advancing this integration. Issues such as privacy, data protection, algorithmic discrimination, and the risks of mass surveillance must be addressed seriously. In both the United States and Brazil, where **Law No. 14,967/2024 is now in effect**, the development of clear and transparent regulations is essential for balancing technological innovation and respect for fundamental rights.

Security guards' work also needs to be valued, both in terms of training and professional recognition. Automation should not be seen as a threat to employment, but rather as an opportunity for qualification and social advancement. To this end, it is essential that governments and companies invest in ongoing training programs, ensuring that workers are prepared to perform more complex roles in the new digital ecosystem.

For investors, private security represents a promising sector, experiencing rapid growth and with strong potential for appreciation. Companies that adopt innovative and ethical practices attract capital from funds interested in ESG criteria, expanding the sector's social and economic relevance.

On the global stage, the United States positions itself as a benchmark and catalyst for trends. However, this leadership must be exercised responsibly, respecting the cultural and legal diversity of other countries and fostering international cooperation.

In short, the integration of security guards, surveillance technologies, and artificial intelligence redefines the direction of private security in the 21st century. In the United States, this transformation is already a reality, with significant economic, social, and political impacts. In Brazil, the Private Security Statute ushers in a new regulatory phase, reinforcing the importance of a balance between technological innovation, the appreciation of the human factor, and ethical responsibility.

Thus, private security in the future could consolidate itself as **a strategic pillar of economic development and global security**, playing an essential role in building safer, fairer, and more sustainable societies.

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