



Airport Name: Belo Horizonte International Airport (BH Airport)

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Project's Name: Innovation and sustainability applied to operational safety

Resumen Ejecutivo

As connectivity expands and its strategic logistical position solidifies BH Airport as one of Brazil's leading airports, innovation has evolved from a mere differentiator into a prerequisite for maintaining efficiency, safety, punctuality, and excellence in the passenger experience.

Driven by a commitment to development, the airport employs data-driven operations, integrates systems and partners, and increasingly utilizes technology for real-time decision-making, thereby minimizing ad-hoc responses and enhancing operational predictability.

By applying artificial intelligence to its processes, the airport transforms field monitoring data into instant dashboards, paving the way for operations that are more predictive, secure, efficient, and sustainable—ultimately bolstering airport safety.

A key component of this innovation strategy is the use of drones by the operational safety department. These devices are deployed for perimeter and infrastructure monitoring, detecting animals that could pose risks to aircraft, identifying Foreign Object Debris (FOD), spotting wildfires via thermal cameras, assisting with event management, and supporting monitoring efforts when requested by public security agencies.

Conceived by the safety department, this project integrates directly with systems across other departments; it issues alerts and guides actions for maintenance, wildfire suppression, wildlife management, and airport operations teams, thereby boosting the efficiency of operational safety and prevention measures.

The primary benefit lies in the speed of information: drones extend the teams' visual range, reduce response times, increase inspection accuracy, and minimize personnel exposure during certain tasks. In an airport environment where operational safety and public security must work in tandem, this technology strengthens the integration between the airport and relevant authorities.

This application also highlights a key aspect of innovation in the airport sector: not all technology is immediately visible to the passenger. Many of the most significant solutions operate behind the scenes, underpinning the terminal's safety, operational regularity, and responsiveness. Inspections previously carried out using combustion-engine vehicles have been replaced by drones, thereby avoiding the burning of fossil fuels and increasing inspection accuracy.

In this way, the project makes a tangible contribution to the UN Sustainable Development Goals (SDGs) regarding industry, innovation, and infrastructure (9) and climate action (13), while helping to preserve the environment and natural resources.

Projects results and benefits

The results of indicators regarding the use of drones in daily routines are tangible across various areas and sectors of BH Airport, starting with the reduction and optimization of operational inspection processes.

Safety and operations vehicles have cut emissions by approximately 20.4 tons of CO₂e annually—equivalent to saving 13,000 liters of gasoline—thanks to optimized patrol routes; patrols that were once conducted solely by vehicle are now carried out using a hybrid approach that incorporates drones.

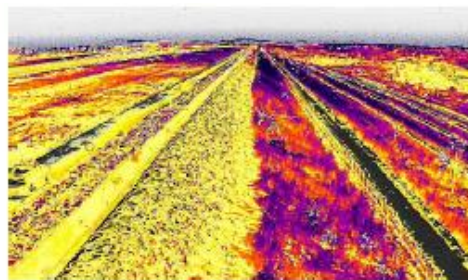
Monitoring vegetation during periods of high wildfire risk has enabled better integration with green space maintenance. This allows for improved planning of firebreaks—which prevent fires from spreading across larger areas—and guides firefighting efforts more effectively. Consequently, the area affected by wildfires has decreased by 43% since drone monitoring began.

Drone imagery also makes it possible to identify large flocks of birds near the airport, as well as nests in treetops, on towers, or on antennas, and potential wildlife attractants in the vicinity of the airport grounds. These images support the wildlife management team's bird dispersal and animal capture efforts, thereby ensuring operational safety. There has been a 3.5% reduction in wildlife-aircraft incidents since the project's inception.

Images captured by the equipment also assist the maintenance department by monitoring vegetation height in landscaped areas and detecting foreign objects that could pose a risk to aircraft. Currently, trials are underway using 100% electric autonomous equipment that employs artificial intelligence for navigation and route recognition during grass-cutting and debris-collection tasks.

Training across various sectors also facilitated a crucial integration in preparing airport infrastructure for extreme weather events; the equipment allows for real-time monitoring of structures—such as roofs, piping, water mains, drainage systems, antennas and towers—thereby avoiding the exposure and risks associated with these activities, as well as the costs involved in maintenance.

Description of achievements	Before	After	Saving	Reduction
Gasoline consumption by operational inspection vehicles (L) (base year 2024/2025)	16.571,00	3.567,58	78%	13.003 L
Emissions from gasoline consumption by operational inspection vehicles (Ton.Co2e)	26,00	5,60	78%	20,4 ton.Co2e
Area affected by forest fires within the airport grounds (hectares) (base year 2024/2025)	14,53	8,25	43%	6,28 hectares
Reduction in wildlife incidents (collisions per 10,000 ATM) (base year 2024/2025)	2,01	1,94	3,5%	0,7 events per 10,000 ATMs
Safety remains non-negotiable and our fundamental rule of the game. Artificial intelligence and innovation do not replace human decision-making but rather enhance the quality of information available to teams; indicators demonstrate the impact of this strategy through reduced emissions, lower fossil fuel consumption, and a decrease in incidents causing biodiversity loss, such as fires and wildlife collisions.   OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL				



Perimeter inspection conducted by drone, focusing on potential fence breaches and the condition of vegetation near the runway, guiding field maintenance teams using autonomous grass-cutting equipment.



Track inspection carried out by drone, focused on checking the condition of the pavement or the existence of objects that could pose a risk to the operation.