

Registration Form

ACI Latin America and Caribbean Green Airport recognition 2025



Submission deadline: September 5, 2025

ACI-LAC will send an acknowledgment of receipt via email after receiving each form.

● **Participating Airport Information**

Name: Lúcio Flávio Guimarães Fonseca

Airport Group (if applicable): Uberlândia Airport - Lieutenant Colonel Aviator César Bombonato (Aena)

Full name: Lúcio Flávio Guimarães Fonseca

Position: Airport Director

Email: lfonseca@aenabrasil.com.br

Project's name: Fauna en foco – Innovation in Sound Systems for Aeronautical Safety

Project website (if applicable): <https://youtu.be/I7gVT45CHSU>

● **Official/Alternate Representative for ACI-LAC**

Signature of the official/alternate representative for ACI-LAC:

Full name: Fernando Santiago Yus Saenz de Cenzano

Position: CEO

Email: fyus@aenabrasil.com.br

● **Recognition conditions**

I accept that the information provided (executive summary and graphics/images) be published at the discretion of ACI-LAC.



Biodiversity and Nature-Based Solutions (NbS)

The **Green Airports Recognition 2025** offers a valuable platform for airports across Latin America and the Caribbean to showcase their successful efforts in biodiversity preservation and the implementation of Nature-Based Solutions (NbS) within the aviation sector. Initiatives may include (but not limited to) wetland restoration and creation, restoring ecosystems, and leveraging NbS for carbon removal. Examples of eligible practices range from in-house horticulture and airport nurseries, plantation for carbon reduction and community benefits, ecological rejuvenation of wetlands, marine life conservation efforts led by airports, and basket of measures for biodiversity.

Important note: Projects currently under implementation are eligible, provided they are mature enough to

produce measurable, quantitative outcomes in accordance with the evaluation criteria. Participating airports or airport groups may submit only one (1) project

- **Evaluation**

Each application evaluated must meet the following recognition criteria:

- 1. Involvement of the airport's senior management**

Demonstrate active participation and endorsement from airport senior management during any phase of the project's development or implementation.

- 2. Sustainability Benefit**

Detailed description of the sustainability benefits of the project/program supported by quantitative data and objective sustainability indicators where possible.

Indicate the level to which the project contributes to the United Nations Sustainable Development Goals

- 3. Stakeholder Engagement**

Present evidence of collaboration with internal teams and external partners—such as government agencies, NGOs, community groups, or industry stakeholders—in the planning and execution of the initiative

- 4. Innovation**

Demonstrate that the project/program exceeds standard industry practices.

In addition, ACI-LAC will present a Special Recognition to the project demonstrating exceptional achievement. To be eligible, the participating airport must hold accreditation at any level within the Airport Carbon Accreditation (ACA) program.

The weighting of the criteria for special recognition is indicated below:

1. Involvement of the airport's senior management (20%)
2. Sustainability Benefit (30%)
3. Stakeholder Engagement (30%)
4. Innovation (20%)

- **Instructions to participate.**

Complete and submit the form with the project information in MS Word and send to fmedela@aci-lac.aero before **September 05, 2025**.

1. Summary Executive (maximum 350 words)

Please include an Executive Summary of the project in a maximum of 350 words. In case your project meets the criteria of the ACI-LAC *Green Airport Recognition*, this Executive Summary will be included in the Best Environmental Practices Document that seeks to promote best practices that minimize the impact of airports on the environment, in addition to recognizing the achievements of airports in the region in their environmental projects.

The ***Fauna en foco*** project is a pioneering biodiversity protection initiative at Uberlândia Airport, designed to significantly reduce wildlife strikes while ensuring operational safety and promoting sustainable practices in line with the United Nations Sustainable Development Goals (SDGs 9, 11, 13, and 15).

The solution is based on an intelligent, modular, and portable sound system with variable frequencies adapted to the local wildlife species. It operates automatically or remotely, minimizing the need for frequent human patrols and eliminating aggressive or ecologically harmful deterrence methods such as fire, vehicles, predators, or culling.

Beyond its environmental benefits, ***Fauna en foco*** provides measurable economic and operational advantages:

- **Annual revenue exceeding R\$1.3 million** from savings on fuel consumption, fleet maintenance, and services.
- **Annual operating costs slightly above R\$260,000**, ensuring high efficiency.
- **Initial investment of approximately R\$2 million**, with a **projected return of 52%** and a **payback period of just 1.9 years**.
- **Annual reduction of more than 22 tons of CO₂** emitted into the atmosphere, strengthening the aviation sector's decarbonization goals.

The project was conceived, approved, and implemented with full engagement from senior airport management, integrating cross-functional teams and external stakeholders such as environmental agencies, aviation safety authorities, and the local community.

Its scalable design allows adaptation to other airports, heliports, and critical infrastructure worldwide. By merging innovation, cost efficiency, and ecological responsibility, ***Fauna en foco*** transforms the sound of aviation into a shield for biodiversity and a benchmark in environmental stewardship for the global airport industry.

2. Project Background **(maximum 150 words)**

Please describe the background of the project or program (Why was it necessary to develop this project/program?)

Wildlife strikes are one of the top five operational safety risks in global aviation, with significant financial, safety, and environmental impacts. At Uberlândia Airport, historical data showed recurring bird presence in operational areas, creating a need for an effective, sustainable, and replicable deterrence system.

Traditional methods proved costly, labor-intensive, and often ecologically harmful. Regulatory pressure from ANAC (National Civil Aviation Agency) and environmental authorities required innovative approaches to comply with operational certification standards and environmental best practices.

Fauna en foco was born from this challenge: to create a low-cost, eco-friendly, and high-efficiency solution that not only meets regulatory demands but also strengthens the airport's ESG commitments and enhances its reputation for innovation and sustainability.

3. Project scope **(maximum 50 words)**

Describe the area of implementation of the project, for example: area of operations, terminal, the entire airport, etc ; as well as agents involved in it: airport staff, other *stakeholders* , NGOs , environmental groups, etc.

Implemented in airside operational areas (runway safety strips, taxiways, and critical wildlife-risk zones), involving airport wildlife control teams, operations, maintenance, safety management, environmental agencies, and community partners. Scalable to the entire airport perimeter and adaptable to different operational contexts.

4. Project Description **(maximum 100 words)**

Describe how the project was implemented.

The project deploys modular, portable sound emitters with variable frequency patterns designed to deter specific bird species without harming them. The system allows for automatic or remote activation, programmed according to real-time wildlife monitoring.

Implementation included site surveys, frequency calibration, prototype testing, and staff training. The solution was integrated with the airport's Wildlife Hazard Management Plan, replacing or reducing traditional methods and minimizing vehicle patrols.

5. Project results and benefits (maximum 300 words)

Describe the results of the project highlighting its achievements. Please emphasize data, for example: cost savings, recognized environmental benefits, evidence of innovation, etc.

Operational Safety:

The project significantly reduced the presence of birds in critical areas, mitigating the risk of wildlife collisions and contributing to compliance with ANAC operational certification requirements.

Environmental Benefits:

- Elimination of aggressive or lethal methods for dispersing wildlife.
- Annual reduction of more than 22 tons of CO₂ emitted into the atmosphere, thanks to the reduction in vehicle patrols and fuel consumption.
- Preservation of local biodiversity with a 100% non-lethal and environmentally responsible approach.

Economic Results:

- Annual revenue exceeding R\$1.3 million from savings on fuel consumption, fleet maintenance, and services.
- Annual operating costs slightly above R\$260,000, ensuring high financial efficiency.
- Projected ROI of 52% and payback of just 1.9 years on an initial investment of approximately R\$2 million.

Innovation:

- First application in Brazil of a modular and portable variable-frequency sound emission system, adapted to local wildlife.
- Scalable to airports of different sizes and replicable in other critical infrastructures.
- Unprecedented integration of operational safety, economic efficiency, and environmental protection into a single wildlife risk management model.

Stakeholder Engagement:

- Active participation of senior management from conception to implementation, ensuring strategic alignment.
- Collaboration with environmental agencies, aviation authorities, and the community for technical and ecological validation.
- Continuous training of wildlife control, operations, and maintenance teams in sustainable and innovative practices.

Fauna em Foco not only raises the safety and sustainability standards of Uberlândia Airport but also establishes a benchmark for airports throughout the Aena Brasil network and internationally.

6. Graphics and Images (maximum 4)

Include a maximum of 4 graphs, including tables or photographs, with a brief description. This information will also be included in the Best Environmental Practices Document.

The presence of birds near runways poses a critical challenge to airport safety. With the growth of air traffic, the incidence of bird-aircraft collisions is becoming a major concern, requiring a proactive approach.

Relevant data:

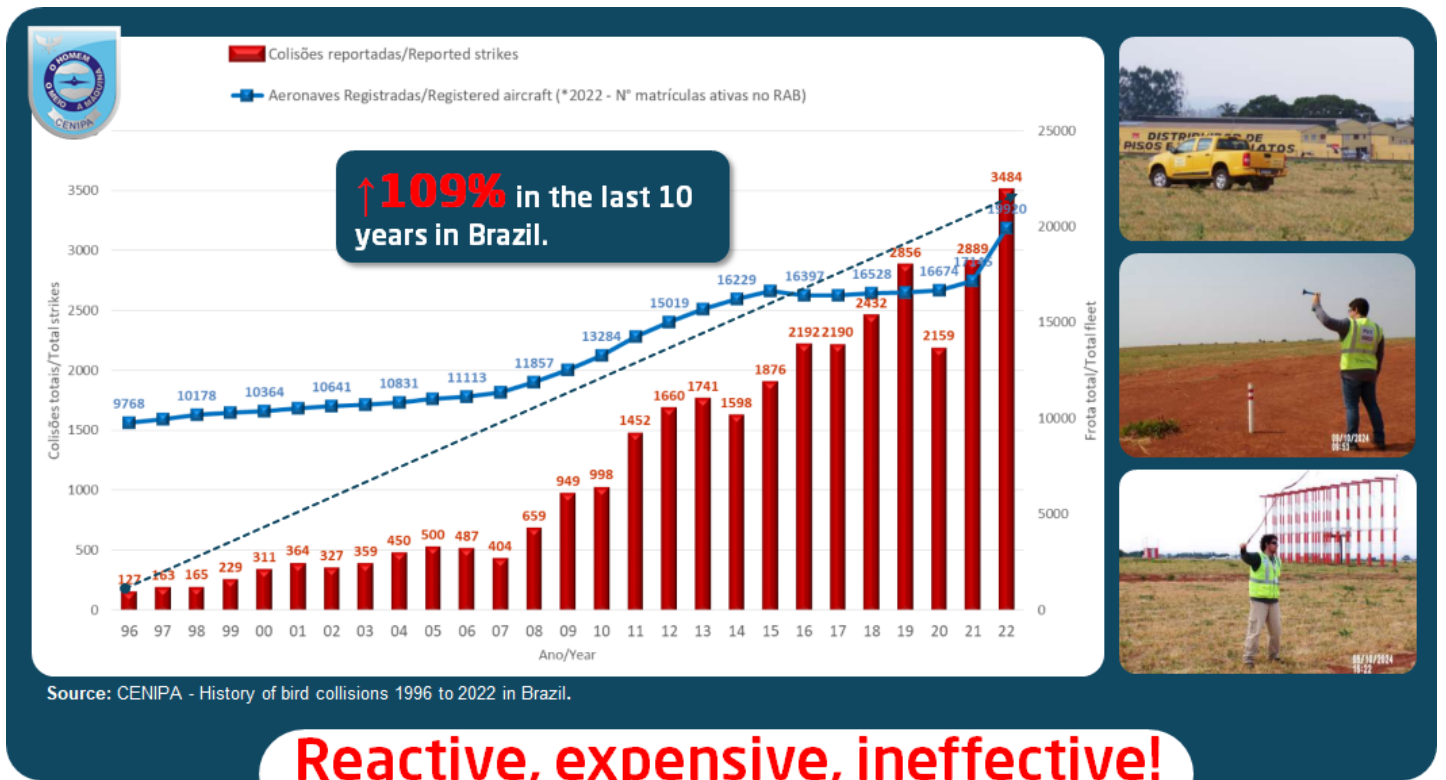
- According to CENIPA data, as shown in **Figure 1**, there has been a **109% increase in collisions** at Brazilian airports over the last 10 years.
- At Uberlândia Airport, an average of **10 incidents per 100 operations was recorded last year**, a number that cannot be ignored.
- **Movement radius:** During takeoff and landing operations, the critical airspace is up to 3 nautical miles, where the presence of birds exponentially increases the risk of collisions.

Potential impacts:

- Aircraft safety;
- Economic impacts;
- Reputation and trust; and
- Environmental impacts.

Given this scenario, the implementation of **new control measures** is essential to **guarantee the safety and operation of the airport**.

Figure 1 - History of collisions in Brazil based on the traditional wildlife scaring methodology



Uberlândia Airport faces the critical challenge of bird presence near the runway, a problem that not only compromises the safety of air operations but also represents a significant economic and environmental risk.

In response to this question, we propose a Variable Frequency Sound System that uses innovative technology to scare birds efficiently and sustainably.

Innovative Solution

- **Smart Sound System:**

The **system emits variable sound frequencies** that scare birds without causing harm or stress to local wildlife. This approach not only addresses the immediate need for safety but also demonstrates a commitment to preserving biodiversity.

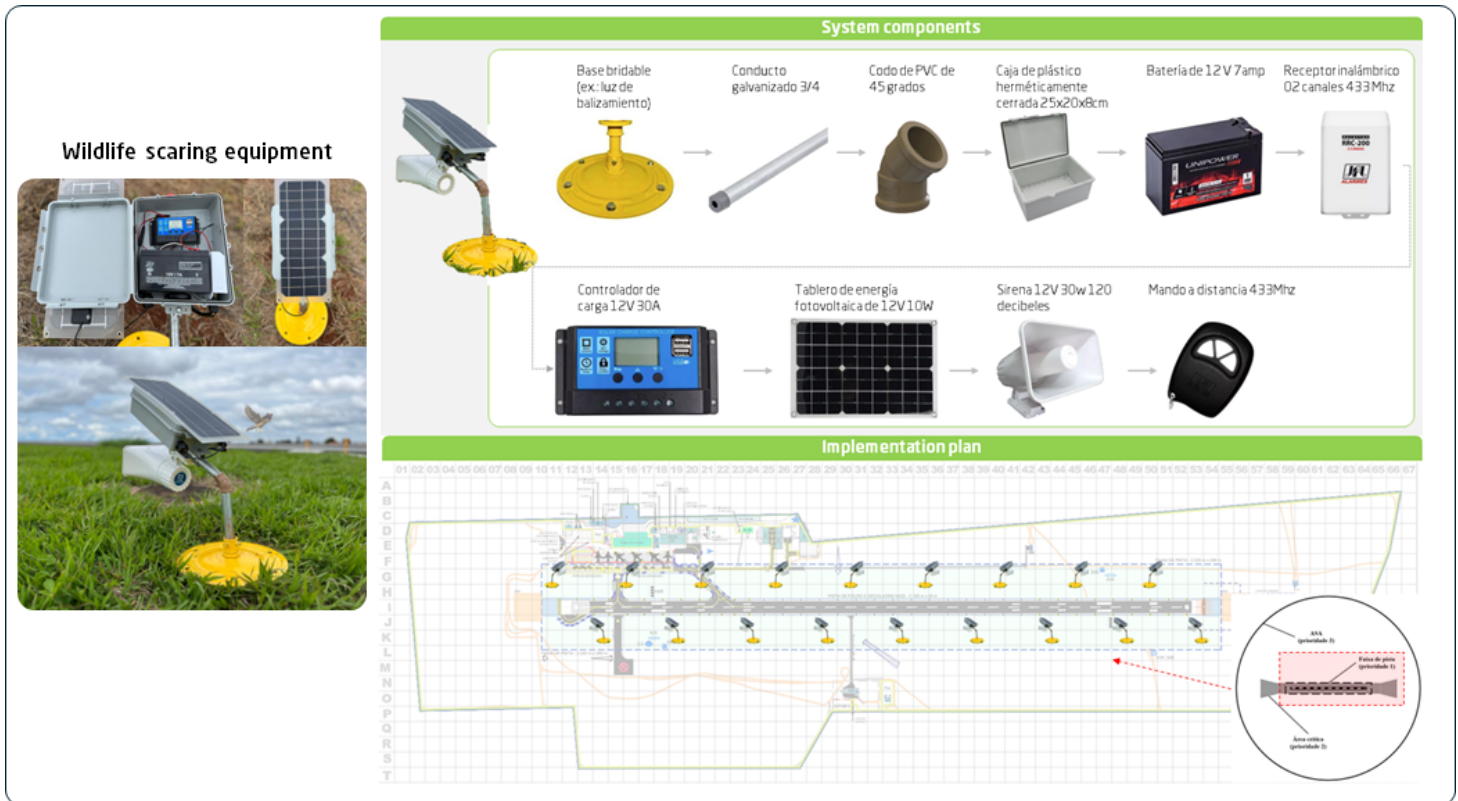
Renewable Energy:

The system will be powered by **solar panels installed** on the system. This renewable energy source ensures self-sustaining operation, reducing the project's operating costs and carbon footprint.

Circular Economy:

Materials available at the airport, such as metal structures, damaged beacon bases, and disused signaling panels, **will be reused in the construction of the sound system**. This practice minimizes waste, optimizes resources, and aligns with the company's sustainability guidelines.

Figure 2 - Uberlândia Airport's "Fauna in Focus" Project



An effective, sustainable, and easy-to-use solution that reduces the risk of bird strikes and energy consumption, and adapts to each airport's operations.

Main benefits:

- Simplicity and efficiency
- Sustainability and ESG compliance
- Scalability and low cost
- Strengthening the company's image

In the first six months after implementing the project at Uberlândia Airport, we recorded a **reduction of over 15% in bird strike rates**, as shown in Figure 3.

Figure 3 - Result after implementing the solution at Uberlândia Airport

