Elevating
Airport Operations

How ISO Enhances Sustainability,
Security & Energy Efficiency

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INTRODUCTION

The airport industry is one of the fastest growing industries in the US, as evidenced by the rising numbers of employees, customers, and flights going and returning annually.

Industries that grow fast, like airports, incur operational challenges and introduce unexpected risks that can negatively impact their economic plans. The biggest risks and operational issues experienced by airports today are:

- Protecting the privacy and security of their customers and their data
- The ecological impact of increased use of fuel, solid waste, and wastewater disposal
- The significant growth in energy needed to operate the airport

This increased airport growth requires the handling of more supplies, an increase in energy use, security controls, and sustainability to keep their airports functioning cost-effectively with minimized environmental impact.

Airports are expected to implement initiatives to improve performance and metrics that will manage:

- Environmental sustainability, welfare, and pollution
- Energy usage and waste management
- Security measures and personal data protection

WHAT DOES THIS GUIDE COVER?

This guide will help you understand ISO and its applicability to addressing these business challenges for the airport and airline sectors.

You will learn how ISO standards can be seamlessly incorporated into your airport's framework to help enhance your operations and procedures for energy management, data security, and sustainability.

The Green Airport

Implementing **ISO 14001** for Sustainable Airport Practices

One of the purposes of ISO 14001 is to measure and improve how businesses use and dispose of natural resources and how they can cut back on greenhouse gas emissions. It offers guidelines for organizations seeking to lessen their impact on the environment.

Airports are legally responsible for recording and analyzing how their operations affect the environment and how their waste is utilized and disposed of. Procedures should be implemented to improve airports' environmental damage control and reduce their carbon footprint.

Airports with ISO 14001 will find achieving environmental sustainability significantly easier because ISO 14001 focuses on documents and strategies that will keep you in compliance with, or above, the minimum standard required. Annual audits are also conducted to update airports with environmental measures and improvements.

WHAT ENVIRONMENTAL CONCERNS DO AIRPORTS CAUSE?

Airports significantly disrupt their surroundings and harm the ecosystem. Just under 3% of all greenhouse gas emissions in the United States are directly attributed to the airport and aviation sectors, and airport emissions are rising more quickly than those from any other method of transportation.[1]

The worst environmental concerns that airports cause include:

- Disposal of waste
- Greenhouse gas emissions from aircraft and ground vehicles
- Noise pollution
- Land utilization
- Deforestation
- Habitat destruction
- Space and traffic congestion
- Building power use
- Harm to local wildlife waterways
- Extensive water use

[1] Reducing Airport Greenhouse Gas Emissions Through Renewable Energy Generation and Demand Reduction

WHAT ENVIRONMENTAL LEGISLATIONS ARE ALREADY IN PLACE FOR AIRPORTS?

In the US, airports must adhere to specific environmental legislation regarding the effects they generate. Many airports will strive to achieve the regulatory minimum or join initiatives and programs dedicated to reducing environmental damage. ISO 14001 is one of the standards that airports can adopt to lessen environmental impact.

As it lends legitimacy to its environmental objectives, ISO 14001 can make an airport a reputable ecological leader in the United States. Airports will subsequently see increased chances to participate in programs and initiatives as reliable members.

An airport that has established itself as an environmental leader by implementing an environmental management system is Dallas Fort Worth Airport [2], the first airport in America to achieve carbon-neutral status. [3]

In 2022, Dallas Fort Worth Airport was awarded a **$35 million** grant from the Department of Transportation and FAA to construct a new zero-carbon central utility plant essential to the airport reaching its 2030 goal of achieving net zero. [4] Airports that establish themselves as environmental leaders in their industry will see increased market opportunities and potential for participation in government projects and schemes. In the United States, government bodies such as the Federal Aviation Administration (FAA) encourage airports to be involved in environmental programs. They may give grants to airports looking to implement ecologically beneficial strategies further.

For example, in 2022, the Louisville Muhammad Ali International Airport in Kentucky was funded **$300,000** to install three noise-active control systems to reduce the departing noise of aircraft for neighboring communities. [5]

[2] DFWA Airport

[3] International Airport Review

[4] News DFWA Airports (2022)

[5] FAA EMPP

HOW IS ISO 14001 RELEVANT TO AIRPORTS?

Airports are known to be disruptive to the public and can cause significant environmental implications for people, wildlife, and the planet.

An increasing number of airports worldwide have implemented environmental goals and initiatives due to public concern. For example, Hartsfield-Jackson Atlanta International Airport has a zero-waste policy and has committed to reaching the City of Atlanta's 100% Clean and Renewable Energy by 2035 objective and the ACI Net Zero Goal by 2050. [6]

Airports should consider how much of an environmental impact they presently have and what actions they should take to lessen that impact.

A properly implemented ISO 14001 management system can improve the environmental performance of an airport and reduce the adverse effects they incur on the environment. Integrating the environmental objectives of ISO 14001 into everyday airport operations can:

- Reduce resource waste and environmental pollution produced by airports
- Control the environmental impact of sourcing materials and product development
- Improve the management and organization of internal environmental processes
- Develop sustainable development goals through trade
- Adopt a continual improvement strategy for ecological performance
- Increase regulatory compliance with aviation and airport governments
- Improve reputation and credibility with shareholders, employees, and customers
- Improve risk management practices for pollution prevention

[6] Airport Technology (2022)

WHAT AIRPORTS ALREADY HAVE ISO 14001? HOW HAS THIS IMPROVED THEIR BUSINESS?

Miami International Airport, one of the busiest airports in the world, obtained the ISO 14001 certification, indicating that they have taken a concentrated, quality-based approach to its environmental management responsibilities. [7]

They participate in various recycling efforts and are part of various green initiative projects that help them reduce their carbon footprint and reinvest in their community.

Miami International Airport's sustainability and ecological efforts will generate $60 million in guaranteed savings during the 15-year payback period. For example, their investment in $45 million worth of energy-efficient lighting, water, heating, and sustainable efforts will save them **$3.2 million annually** in utility costs. [8]

Denver International Airport, another airport with an ISO 14001 environmental management system, has made consistent efforts to retrofit and upgrade existing light fixtures. [9]

Westchester County Airport is the third airport in the United States to achieve ISO 14001. They participate in several environmental programs, such as remediating historic spill sites, improving the airport recycling system, and ensuring the proper disposal of waste. [10]

ISO 14001 provides airports with a competitive edge by enabling streamlined execution of operations while maximizing their potential through efficient processes and systems. The ISO standard will build resilience and confidence in airports looking to control their waste and water usage, and reduce environmental concerns and hazards, making airport operations safer and more efficient.

[7] MIA Environmental Report (2007)

[8] Miami Airport Fly Green MIA

[9] Flyer Denver

[10] Quality Digest

Energy Management for Airports

Implementing **ISO 50001** to Improve Energy Efficiency

AN INTRODUCTION TO ISO 50001

On average, airports consume 19.7kWh of electricity and 34.7 Btu of natural gas per square foot each year. This often takes up a huge chunk of an airport's operating budget. Given the current fluctuation of energy prices and the worsening impacts of climate change, a comprehensive energy-saving management framework is becoming a pressing need. This can be achieved through the implementation of ISO 50001.

What is ISO 50001?

ISO 50001 is an internationally recognized standard dealing with energy management systems. It helps organizations of all types maximize their usage efficiency while simultaneously limiting their environmental impact. Like all other ISOs – including those your facility may have already obtained – it provides the framework necessary for establishing a systematic approach to energy management and consumption. Upon implementation, airport operators will gain a comprehensive understanding of their energy usage, allowing realistic energy reduction targets to be set and achieved over time.

WHAT BENEFITS WILL ISO 50001 PROVIDE FOR MY AIRPORT?

ISO 50001 certification can offer a wide range of benefits – one of significance being that it's a key component in the process of airport cost reduction. The sheer breadth of an airport's 24/7 operations means that high levels of energy are consumed, and exorbitant running costs are yielded as a result. ISO 50001 can help you manage these processes more efficiently, resulting in a notable reduction that will save you time and money annually. In addition, your facility has an obligation to comply with air and water quality standards, both in reducing greenhouse gas emissions, and benefiting nearby communities. This is crucial for airports serving dry, arid regions, such as the Mojave Desert, where air quality suffers due to dust and other pollutants.

Because airports are such large emitters of greenhouse gases and other pollutants, environmental sustainability is essential. Customers and stakeholders expect companies to prioritize corporate responsibility in relation to environmental impact, meaning businesses of all types are obligated to meet these standards and the changing needs of customers. As a result, ISO 50001 will enable airports to lessen their own impact on the environment.

Acting upon these concerns will make a tremendous difference to your airport's reputation, both internally and externally. ISO 50001 will establish the necessary framework to effectuate this change and enable the recognition of the associated benefits.

HOW IT WORKS ALONGSIDE OTHER ENVIRONMENTAL CERTIFICATIONS

ISO 50001 is entirely complimentary to other certifications you may have, such as LEED, ACA, BREEAM, or Green Globe. Many of the country's largest airports have their own environmental measures separate from official certifications, and ISO 50001 can also be integrated to account for these.

HOW ISO 50001 WILL HELP YOU

By working with your trusted ISO consultant at IMSM, you can gain the certification your facility needs to demonstrate your business's commitment to environmental obligations. ISO 50001 is the internationally recognized stamp of approval that provides your stakeholders with the assurance that you are prioritizing sustainability and continuous improvement.

A Guide for Airport Data Security

Implementing **ISO 27001** to Ensure Data Integrity

It is crucial that all organizations, big and small, continue to adapt their operations to coincide with the rapid development of the information technology sector. Hackers and other malicious entities have long targeted the aviation industry. As technology advances, it is now more important than ever to have a robust information security management system in place.

WHAT IS ISO 27001?

ISO 27001 concerns establishing, implementing, maintaining, and continually enhancing an organization's information security management system.

This globally recognized information security management standard allows for sensitive data – including financial, intellectual property, and employee and customer data – to be adequately managed and protected. An organization can achieve this by providing and implementing a well-defined framework to give assurance that your organization's information security measures are effective.

HOW DOES ISO 27001 WORK ALONGSIDE OTHER CERTIFICATIONS?

Whether it's LEED, CISSP or a different ISO certification, ISO 27001 will work seamlessly alongside any pre-existing certifications you may have obtained already. It demonstrates confidence to your customers and stakeholders that their data is handled carefully.

ISO 27001'S IMPORTANCE IN THE INDUSTRY

In today's climate, ISO 27001 is essential to the aviation industry, where cyberattacks of all varieties are commonplace. When successful, these attacks can result in vast operational and financial complications. Many of the country's largest airports and airlines have faced these attacks over recent years, for example:

- In 2018, a ransomware attack on Atlanta's Hartsfield-Jackson Airport shut down its internal Wi-Fi network. While there were no flight disruptions, the airport's Wi-Fi network was impacted, causing inconvenience for travelers. Additionally, the attack targeted various judicial and governmental buildings in the city, leading to a complete halt in administrative functions. [11]

- In late 2022, Russian-speaking hackers launched cyberattacks on 14 US airports, including major ones like Los Angeles International and Chicago O'Hare. As a result, these airports' websites were temporarily compromised. [12]

- In mid-2022, American Airlines detected a breach of personally identifiable customer data. [13]

- Sears and Delta were hit with similar data breaches that exposed customer payment information. The root cause was traced back to a familiar software provider used by both companies. [14]

After a cyberattack on an airport, consumer and stakeholder trust tends to diminish significantly, especially when customer information gets compromised or daily operations are disrupted. Failure to implement and uphold adequate cybersecurity measures could result in immeasurable financial losses and irreparable reputational damage.

The effects of these repercussions can incur significant losses for airports through legal and regulatory consequences, including fines and lawsuits. Airports may have to invest significant resources to address the breach, such as hiring security, upgrading security protocols, and notifying individuals, leading to additional costs.

The Financial Times reported that due to the expanding impact of hacking incidents, the CEO of Zurich Insurance - one of Europe's largest companies - has warned that cyber-attacks will eventually surpass natural catastrophes as the next "uninsurable" event. [15]

After a cyberattack, insurance companies may be forced to re-evaluate their policies, terms, and premiums for airports, given the increased risk associated with cyber threats. In particular, the cost of insuring against cyber risks may increase significantly due to the potential for massive financial losses resulting from data breaches, theft, and other cyber incidents.

The increased costs of cybersecurity measures to prevent future attacks may also be factored into insurance premiums, further raising the costs for airports. As a result, airports may face higher insurance costs, which can impact their bottom line and operations. Ultimately, the increased insurance cost may force airports to invest significantly in cybersecurity to reduce their overall risk and insurance costs.

[11] Atlanta Ransomware (2019)

[12] The Independent (2022)   [14] IT Governance (2018)

[13] Malwarebytes (2022)   [15] Financial Times (2022)

HOW ISO 27001 WILL HELP YOU

ISO 27001 will help avoid and mitigate the likelihood of these damages by improving organizational structure and strengthening your airport's cybersecurity framework. Not only will it safeguard your data, but it will also protect the future of your airport's reputation.

ISO 27001 certification is akin to a stamp of approval, demonstrating to stakeholders that their data is handled securely and reliably. This standard can also help ensure the uninterrupted running of daily operations and the reduced potential for downtime.

ABOUT IMSM

IMSM is a full-service ISO consultancy established in 1994 in the UK. Consulting across a wide range of industry sectors and sizes, we provide qualified, professional, and experienced expertise dealing with 15 International Standards.

These prestigious standards span across multiple disciplines, ranging from Quality, Environmental, Health & Safety to Information Security, Laboratory Competence, Medical Devices, Automotive, Aerospace, Food Safety, Risk and Anti Bribery, Cosmetics, and Specialist Industry Specifications.

WHY CHOOSE IMSM?

1. **Fixed Fee:** IMSM charges a fixed fee for the ISO implementation process, ensuring you will not receive any unanticipated charges or invoices.

2. **Flexible Implementation:** The implementation process is designed to accommodate your business requirements and fit around your schedule. This allows full flexibility for your implementation process.

3. **Competence:** IMSM take pride in their range of ISO specialists and consultants, with each being trained to the highest standards by an IRCA or equivalent approved training body. They have earned a reputation for their integrity and ability to deliver value through best practices. IMSM guarantees that your ISO specialist and lead auditor will be highly qualified and equipped to assist your organization in achieving ISO certification.

4. **Full Service:** IMSM improves existing systems and produces the necessary manuals, making the implementation process as straightforward as possible.

5. **Training:** Besides your ISO, IMSM offers internal auditor training to enable you to conduct your own annual internal audits before re-certification. This is flexible and delivered by experienced IMSM trainers.

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