Strategic Asset Management for Airport Engineering Systems Training Course



19 - 23 Oct 2026

Madrid

5900 € (Per Person)

Ref: #AIR7126_77887

Course Introduction / Overview:

This comprehensive training course provides an in-depth exploration of strategic asset management tailored specifically for the complex environment of airport engineering systems. In an industry where safety, reliability, and efficiency are paramount, a proactive approach to managing physical assets is crucial for sustainable operations and long-term profitability. This program moves beyond traditional maintenance, delving into the holistic principles of ISO 55000 to align asset management objectives with the airport's overall strategic goals. Participants will learn to optimize the entire asset lifecycle, from acquisition and operation to maintenance and disposal. Drawing on principles outlined by experts like John S. Mitchell in his works on physical asset management, the course emphasizes a data-driven approach to decision-making. BIG BEN Training Center has designed this curriculum to equip professionals with the skills to implement robust asset management systems, improve infrastructure resilience, manage risks effectively, and justify capital investments. This course is the definitive guide for transforming airport engineering and maintenance functions into a strategic value-generating powerhouse.

Target Audience / This training course is suitable for:

- Airport Engineers and Planners.
- Asset Management Professionals in the Aviation Sector.
- Maintenance and Reliability Managers.
- Airport Operations Directors and Managers.
- Civil and Electrical Engineers working in airports.
- Facilities Management Supervisors.
- Capital Projects and Infrastructure Managers.
- Technical Services Managers.
- Regulatory Compliance Officers.

Target Sectors and Industries:

- Airport Authorities and Operators.
- Civil Aviation Authorities and Regulatory Bodies.
- Aviation Engineering and Construction Firms.
- Governmental bodies responsible for transportation infrastructure.
- Aerospace and Defense Contractors.
- Management and Technical Consulting Firms specializing in aviation.
- Ground Handling and Airport Service Companies.

Target Organizations Departments:

- Engineering and Technical Services.
- Maintenance and Operations.
- Asset Management and Strategy.
- Capital Planning and Project Management.
- Facilities Management.
- Safety and Compliance Departments.
- Finance and Procurement.
- Infrastructure and Development.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop a strategic asset management plan aligned with airport objectives.
- Implement the key principles of the ISO 55000 standards in an airport context.
- Conduct comprehensive lifecycle cost analysis for critical airport systems.
- Formulate effective maintenance strategies, including preventive and predictive approaches.
- Identify, assess, and mitigate risks associated with airport infrastructure.
- Optimize capital investment planning for asset renewal and upgrades.
- Establish key performance indicators (KPIs) to monitor asset performance.
- Integrate asset information systems for improved decision-making.
- Enhance the safety, reliability, and sustainability of airport operations.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can directly apply their learning to real-world scenarios. This course utilizes a blended learning approach that combines expert-led presentations with hands-on activities. A significant portion of the training is dedicated to analyzing case studies from leading international airports, allowing participants to dissect successful strategies and learn from industry challenges. Group discussions and collaborative workshops will encourage the sharing of experiences and foster a deeper understanding of complex topics like risk management and lifecycle costing. Participants will engage in practical exercises, such as developing a basic asset register or creating a maintenance plan for a specific airport system. Our instructors facilitate a dynamic learning environment where feedback is continuous and constructive. The focus is not just on theoretical knowledge but on building tangible skills and confidence to implement effective asset management strategies within the unique operational environment of an airport.

Course Agenda (Course Units):

Unit One: Foundations of Airport Asset Management

- Introduction to Strategic Asset Management in Aviation.
- The Role of Asset Management in Airport Business Strategy.
- Overview of Airport Engineering Systems and Their Interdependencies.
- Key Principles and Terminology of ISO 55000, ISO 55001, and ISO 55002.
- Developing an Asset Management Policy and Strategy.
- Stakeholder Management and Communication in an Airport Environment.
- The Asset Management System (AMS) Framework.

Unit Two: Managing Critical Airport Engineering Systems

- Airside Infrastructure Management (Runways, Taxiways, Aprons).
- Landside Infrastructure Management (Terminals, Car Parks, Access Roads).
- Baggage Handling Systems (BHS) Lifecycle Management.
- Heating, Ventilation, and Air Conditioning (HVAC) Systems.
- Airfield Ground Lighting (AGL) and Navigational Aids.
- Power Supply and Electrical Distribution Systems.
- Safety, Security, and Communication Systems.

Unit Three: Maintenance Strategies and Reliability Engineering

- Principles of Reliability Centered Maintenance (RCM).
- Developing Preventive and Predictive Maintenance Programs.
- Condition Monitoring Techniques for Airport Assets.
- Root Cause Analysis (RCA) for System Failures.
- Measuring and Improving Asset Availability and Reliability.
- Managing Spare Parts Inventory and Logistics.
- Outsourcing Maintenance vs. In-house Capabilities.

Unit Four: Lifecycle Costing and Financial Decision-Making

- Fundamentals of Lifecycle Costing (LCC) for Airport Assets.
- Capital Investment Planning and Prioritization Techniques.
- Developing a Long-Term Asset Renewal and Replacement Plan.
- Budgeting for Maintenance and Operations.
- Financial Metrics for Asset Management Performance.
- Building a Business Case for Asset-Related Projects.
- Total Cost of Ownership (TCO) Analysis.

Unit Five: Risk, Compliance, and Future Trends in Airport Asset Management

- Risk Assessment and Management for Airport Infrastructure.
- Integrating Safety Management Systems (SMS) with Asset Management.
- Ensuring Regulatory and Environmental Compliance.
- Sustainability and Green Asset Management Practices.
- The Role of Technology: IoT, AI, and Digital Twins in Asset Management.
- Asset Information Management and Data Analytics.
- Developing a Culture of Continuous Improvement.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can airport asset managers effectively balance the competing demands of short-term operational efficiency, long-term infrastructure sustainability, and evolving regulatory requirements in their capital investment planning?

What unique qualities does this course offer compared to other courses?

This training course distinguishes itself by offering a uniquely integrated perspective that bridges the gap between high-level strategic asset management theory and the specific technical realities of airport engineering systems. While many courses focus on either general asset management principles or specific maintenance techniques, this program synthesizes both, providing a holistic view essential for modern airport operations. It moves beyond the "what" of ISO 55000 to the "how" of its practical implementation within the highly regulated and complex aviation environment. The curriculum is built around real-world airport case studies, focusing on the intricate interplay between systems like baggage handling, airfield lighting, and terminal infrastructure. Rather than merely presenting tools, the course cultivates a strategic mindset, enabling participants to make data-driven decisions that balance cost, risk, and performance across the entire asset lifecycle. It also incorporates a forward-looking module on emerging technologies like Digital Twins and AI, preparing professionals not just for current challenges but for the future of airport management.