TENDER FOR IT INTEGRATION AT THE BVI AIRPORTS AUTHORITY

Background
BVI Airport Authority is presently owns and operates 3 airports in British Virgin Islands by providing passengers a safe and secure gateway to the International hubs. Presently none of these Airports uses Software systems to automate the process and thus the departments and airports within the organization are not centralized. This not only increasing the manual intervention in every aspect of the business but also the Organization is not getting an insight on their operations as and when required. BVI uses mostly Excel based records and hand written log books.

The following are the departments identified with in BVI:

1. Finance
2. Human Resource
3. Safety Management
4. Infrastructure Management (Facility)
5. Security
6. Airport Operations
7. Fire Control

Among the above departments, Finance is using QuickBooks and none of the other departments are using any software systems. Every division/department maintains the transactions in an excel work book. BVI has a home grown system to manage the Air Traffic but the system is not completely operational since it doesn’t integrate with any other system and doesn’t provide all requested features.

Scope of Work
The scope of this engagement is to enable integrated software systems to automate all the activities of the departments at the BVI Airports Authority.

Airport Operational Database (AODB):
The AODB serves as a central repository and translator for all essential airport information systems in a real-time environment. The AODB streamlines and minimizes data entry, increases operational effectiveness, and assures accuracy of information by cross-referencing information between various systems. The system increases overall efficiency and performance of operations by providing accurate historical and real-time airport information and compiling the information into a single database. The AODB is the information nerve centre of an integrated airport IT system. The AODB consists of an SQL database, communications layer and visual system that link various systems in the airport together. The AODB intertwines each system and centralizes the communications protocols. Some of the major features of AODB are:

1. Preconfigured Query and reports with dashboard view
2. Capable of integrating with XML Data Feeds | Manual Flight Entry
3. Aeronautical Billing / Non Aeronautical Billing
4. Strong and easily configurable user Access Management.
5. Seasonal Flight Management System
6. Query flight information
7. Generate Printer Friendly Schedules
8. Logging of flight and aircraft movements
9. Flight Information Display System (FIDS)
10. Intranet capabilities
11. Knowledge base help section (IATA, ICAO, airport, airline, country)

Following are the systems identified to enable an integrated software system:

**Resource Management System**

This system will be designed to increase the level of service and enable airport operators and authorities to manage immobile resources throughout the airport. This is a solution designed for the efficient management of non-mobile handling resources such as airline ticket counters, gates and airline back offices as well as kiosks operating in both CUSS mode and dedicated use mode and baggage reclaim carousels. It provides functionality to meet the requirements of an airport's planning/operations department and all common business needs of the airport.

Following are the modules of the system:
1. Gate & Stand Management System
2. Check-in Desk Management System

And the major features of the system:
1. Multiple airport resource management
2. Airport Analytics

**Flight Information Display System (FIDS)**

1. Receive XML Data feeds
2. Flight arrival and departure displays
3. Gate displays
4. Check-in counter displays
5. Visual paging
6. Airport Advertising capabilities

**HR Management System**

Get all BVI HR operations managed easily: knowledge sharing, recruitments, appraisals, timesheets, contracts, attendances, payroll, etc. Following are the features that should be available in the system:
1. Personal Information Management
2. Advanced Leave Management
3. Time & Attendance Tracking
4. Employee Performance Management
5. Recruitment
6. Integration to central system
7. Training Management
8. Job Opening Management
9. Reporting

**ERP System**

An ERP system to manage and automate the following Airport Operations:
1. **Materials Management:** The Materials Management component addresses a broad range of issues around your material inventory: products, price lists, inventory receipts, shipments, movements, and counts within a company, its organizations, as well as to and from suppliers and customers.

2. **Purchasing:** The Purchasing process covers the business processes required for the creation of requisitions, purchase orders, receipt of vendor invoices, and payment processing. The functionality is tightly integrated with Materials Management.

3. **Order Management:** The Order Management process covers the business processes required for the creation of a quotation for a prospect or customer, sales order management, invoicing and the receipt of cash. The functionality is tightly integrated with Materials Management and Customer Relationship Management.

4. **Warehouse Management:** Warehouse Management includes comprehensive, integrated functionality that automates inbound, warehousing and outbound operations, resulting in improved productivity, space utilization and customer satisfaction.

5. **Project Management:** Project Management system provides a set of tools to define, manage, track and report on tasks associated with delivering services. A project is composed of multiple phases and tasks and may utilize resources from multiple areas within Airport. By using Project Management, one can track and report on the financial progress of projects, including details of the accounting transactions and documents associated with the project.

6. **Financial Management:** Good business accounting is about more than simple debits and credits, and department-level functionality for General Ledger, Accounts Receivable and Accounts Payable. This module automates all of BVI financial, distribution, sales and service processes and unifies enterprise data in a single repository. By taking a unified approach to integrating enterprise-wide business processes and data, BIV's customized business solution provides with reliable information for accurate financial reporting and informed decision-making.

**Point of Sale System**

Point of Sale (POS) processing enhances retail sales and E-commerce business processes. Unlike stand-alone POS solutions, each sales transaction immediately updates financial, accounting and customer records, providing a broader view of BVI’s overall sales activity and product stocking levels. POS systems will be implemented for every sale transaction terminal like, parking, retail shops, duty free shops, food & beverages and any other retail transactions happening at BVI Airport. The most important feature of POS is that it will integrate with BVI's Finance system and the transactions of POS will be automatically updated into Finance System for further actions.

**Safety management System**

An aviation safety management system is more than an MS Excel spreadsheet used to list reported issues. An aviation safety management system encompasses all four pillars (or components) of the ICAO safety management system requirements. Namely:

1. Safety Policy
2. Risk Management
3. Safety Assurance
4. Safety Promotion

The core features of the system would include:

1. Data capturing of Hazard Identification by employees and incident reports submission with necessary pictures
2. Allows personnel to complete MORs online
3. Allows respective units (ATC, RFFS) to input Bird Strike data
4. Each Unit will be able to complete Hazard logs for their respective unit
5. Allows employees to complete safety surveys when electronically distributed through systems
6. All the data records will be centralized and will be stored for min 5 years
7. System will store health information of all employees such as allergies etc.,
8. System will store various SMS information like Safety Bulletins, Newsletters etc.,
9. The system will generate various reports on time periods
10. The system will alert the QSOII, QSM, Director of Operations and Duty Managers via email of information that has been inputted, and should be able to send message to hand held devices like mobiles or iPads
11. System will be capable of sending mass email notifications to all employees

Fire Control System
The goal of this system is to replace the manual logs/records which BVI Fire control department is presently practising and also to integrate all related airports into a centralized system for easy access. This system should ensure the log recordings and various analyses or reporting based on the logs, the system should also help in post mortem of incidents if case.

Airport Analytics
Airport Analytics will be a BI and DWH platform of BVI airport integrating all the systems and the Major scope of the Airport Analytics module is as follows:
1. BI application developed as Role Based approach which helps user to navigate data as per his responsibilities in organization
2. BI application delivers just desired information to right user at right time ( KRA is mapped to KPI)
3. Information is contextualized with who is looking at it, at what time and what is the purpose
4. BI application provides quick view of individual performance and identifies root cause with few clicks, it also intuitively navigates the way user thinks
5. BI enables the thought process like ‘What’ ‘Where’ ‘Why’ ‘When’
6. Application experience is like navigating a website with high performance UI and ease of use being the key

As part of this module, various Dashboards, Reports and Analytics will be implemented to help executive team to understand the business better and take necessary action in improving the business and operations. To help these factors, the following dashboards should be provided:
1. Airside Productivity Analysis
   a. Gives Total Insight into Airline Productivity
   b. OTP analysis
   c. Aircraft Parking Space Productivity Index
   d. Boarding Bridge efficiencies, Flight Productivity
   e. Runway Productivity
   f. SLA’s and Ramp Efficiencies.
2. Terminal Productivity Analysis
   a. Check- in
   b. Cute, Cuss
   c. Baggage Handling
   d. Passenger movement
   e. Security
   f. Terminal space Productivity Index
   g. SLA’s
   h. Commercial Analysis like Retail, DFS (Product and sector wise), F&B analysis, other leased space productivity like ATM's, Banks, Forex and Advertising.
3. Growth Drivers Periodic Review
   a. Provides insight into factors responsible for growth of an area
   b. Helps track growth and trends over previous periods
   c. Allows management to take the appropriate decisions regarding expansion, hiring etc.
4. Revenue Stream Analytics
   a. Airline, Passenger, Concessionnaires, Retail, DFS, Car Park etc .
   b. Helps track revenue growth and trends over previous periods
c. Helps management to make key data based decisions for future budgeting, allocations
d. Allows one to understand profitability within different hierarchies of the organization.

5. Infrastructure & Maintenance Analytics
   a. Tracks the performance of Infrastructure from costs and maintenance perspective
   b. Helps track growth and trends over previous periods
   c. Helps management to clearly analyze future requirements in terms of growth and utilization
   d. Tracks the performance of help desk calls and maintenance response times including ARFF

6. Planning and Forecast Review Analytics
   a. Helps the Airport planning department for slot management by having real effective data on the utilization of the airport from different areas
   b. Helps track growth and trends over previous periods. Helps analyze Airport performance based on summer and winter schedules in co-relation to Aircraft movements, volume trend and passenger movements

7. Special Management Reports
   a. AOP Vs Actual Reports from Revenues (Aeronautical, Non Aeronautical) to Airline and Passenger Productivity, Cost & Profits Analysis (EBIDTA etc)
   b. Score cards based on best practices and benchmarks
   c. Management would be able to analyse specific issues for example concerning Revenues drill downs to the lowest possible grains, thus identifying the under lying causes from Airlines to Commercial areas.
   d. Our unique dashboard layout and data navigation mechanism enables users to quickly spot a non performing areas of business or opportunities for growth
   e. Ready-to-use reports covering all core business areas
   f. Modules include Commercial, Operations, Revenue and Financial.
   g. Easy to create and customize reports for immediate decision support.
   h. Flexible distribution of analysis by browser, e-mail, PDF documents and mobile devices.
   i. Individualized plug and play analyzer for power users.