Saudi Arabia Initiates Smart Airports Strategy:
GACA Reengineers the Air Travel Experience

Anyone who has traveled by air over the past few decades is keenly aware that the air travel experience has seriously degraded, fraught with long lines, cramped conditions, lost luggage, unscheduled delays and cancellations, and few real amenities. For the business traveler, perhaps the worst feature of air travel is being cut off from connectivity to the workplace and access to real-time information about flight delays, gate changes, or special offers relating to travel. Spikes in fuel prices have only made things worse for the industry, raising operating costs from 10 percent to more than 30 percent.[1]

While air travel may recover in the next few years, there will be no "return to normal" for the air travel industry. Shifting demographics, new corporate governance requirements, and emerging communications technologies will require new business models and strategies for the air travel industry worldwide, starting with airports. While airports do not represent the entire industry, they play a vital role in contributing to the air travel experience.

For these reasons, the Kingdom of Saudi Arabia is pursuing an unprecedented opportunity in air travel to attain competitive growth. With more than 40 million travelers passing through Saudi Arabia's airports every year, the Kingdom has identified civil aviation as a key pillar for economic development, earmarking US$5 billion in an initial phase of investments over four years. The objective is to open the sector and modernize it, transforming Saudi Arabia into an important air transport hub for east/west routes that would result in 50,000 new jobs. The longer-term goal is for the civil aviation sector to contribute more than SR25 billion (approximately $6.7 billion) annually to the national economy by 2020.

The larger challenge, however, was to develop a vision and blueprint that would reflect a significant government policy and strategy change for all airports across the Kingdom.

Saudi Arabia Smart Airports

Saudi Arabia's General Authority of Civil Aviation (GACA), responsible for drawing up a master plan for airport development, realized that it must create extraordinary appeal to airlines, vendors, passengers, and the entire air travel ecosystem to draw sufficient traffic through its facilities. To accomplish this, GACA turned to the Cisco® Internet Business Solutions Group (IBSG), which developed a policy vision and strategic framework for the design of "smart airports," establishing them as a blueprint for all of GACA's airport development projects.

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1. Air Transport Association Passenger Airline Cost Index, 2008.

"We need to accelerate the commercialization and innovation of our airports across Saudi Arabia. The 'Smart Airports' concept that Cisco IBSG helped GACA develop will serve as a blueprint to accomplish this for all future airport development projects. Our president, HE Abdullah Rehaimi, has endorsed this."

—Dr. Tarik Foad Himdi, Vice President of Information Technology, GACA

The Smart Airports blueprint, which is being integrated into the Kingdom's civil aviation master plan, is designed to help airports become more efficient and profitable, even in the face of volatile economic conditions and fluctuating prices. Smart Airports fully exploit the power of emerging and maturing technologies with advanced and pervasively deployed sense-analyze-respond capabilities. Systems are built around a single, converged IP platform that enables high-speed broadband traffic throughout the entire ecosystem, including the airport, airport city, airlines, seaport, logistics operators, authorities, and other stakeholders.

The single, converged IP platform is the airport's nervous system, touching and managing every point of interaction (see Figure 1). By enabling the exchange of real-time information, deep cross-silo collaboration among all stakeholders, and airport-wide process integration, Smart Airports significantly improve operational efficiencies, passenger services, and advanced security capabilities.

Smart Airport Pilot Program

King Abdulaziz International Airport (KAIA) in Jeddah, one of the most heavily traveled airports in the Kingdom, was selected for the pilot project. Its proximity to the holy city of Mecca draws travelers from around the world during the Hajj[2] season. The airport is expected to have the capacity to handle 80 million passengers a year by the time its three-phase expansion program is finished in 2035. This will make KAIA the largest airport in the Middle East, and one of the biggest in the world.

Figure 1. The Smart Airports Vision Manages Every Point of Interaction
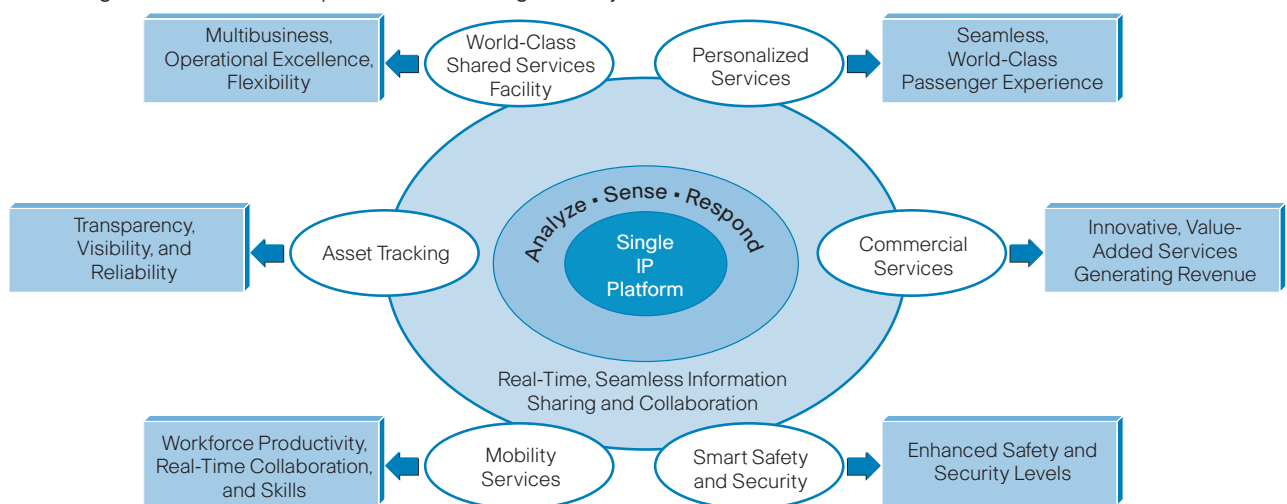
Source: Cisco IBSG, 2009

2. The Hajj is a pilgrimage to Mecca, a religious duty that is required at least once in the livetime of every able-bodied Muslim. The Hajj season takes place annually, usually in December.

As a result of several months' assessment, cross-functional and departmental interviews with KAIA management and staff, best-practice benchmarking, and business-case modeling, Cisco IBSG defined and prioritized six smart service categories within the strategic framework:

1. **World-Class Shared-Services Facility:** Communications, collaboration, and control services are offered across an airport and airport city to airlines, employees, passengers, control centers, and third parties.

2. **Personalized Services:** Services will be offered on a subscription basis via mobile devices, including personalized, real-time information; travel-related, value-added services; and retail promotions.

3. **Asset Tracking:** These services trace high-value movable assets and establish asset lifecycle management across different asset categories (such as luggage or vehicles) to improve transparency, visibility, and reliability.

4. **Mobility Services:** These wireless services connect passengers, employees, and tenants, and allow real-time collaboration (for example, mobile check-in or mobile services for maintenance workers).

5. **Smart Safety and Security:** These applications enable automatic, event-based services like vehicle-plate recognition, access control, and video analytics for tracking people, objects, and baggage. These are integrated with emergency centers, authorities, and mobile security personnel.

6. **Commercial Services:** These digital media services across airports and airport cities dynamically display content on screens, offer services such as managed telepresence for business travelers, and support remote virtual clinics that connect passengers via high-quality video communications to medical facilities in case of illness.

In adopting the Smart Airport blueprint developed by Cisco IBSG as the starting point, the GACA master plan is expected to transform and modernize more than 26 airports over a period of several decades, reaping long-term benefits from increased revenues, better operational efficiencies, and enhancement of safety and security measures. Smart Airports will be agile and adaptable to fluctuations in the global economy. But the ultimate goal is to enrich travelers' experiences significantly as they pass through the Saudi Arabian aviation gateway to venues within the Kingdom, or en route to other global destinations.

For more information about the Smart Airports strategy, please contact:

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More Information

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