

The Challenge of Implementing the e-Airport Concept

Harnessing IT to Provide More Comfortable Air Travel

With the rapid advances in information technology (IT) come momentous changes to societies, economies, industries and even individual lifestyles. The government of Japan adopted the promotion of IT as a national project and established the IT Strategy Council and IT Strategy Headquarters in July 2000. The IT Strategy Headquarters began functioning in January 1, 2001 in accordance with the Basic Law on the Formation of an Advanced Information and Telecommunications Network Society under the leadership of the Prime Minister and comprises all of the Cabinet members, individuals from the private sector and intellectuals. It is the IT Strategy Headquarters that drew up the e-Japan strategy with its goal being to ensure that Japan becomes the most advanced IT nation in the world within five years. The e-Japan 2002 Program was drawn up as a package of prominent policies for fiscal 2002 aimed at giving tangible form to the e-Japan strategies. The e-Japan 2002 Program comprises five basic policies:

- 1) Encourage widespread availability of high-speed and ultra high-speed Internet access

- 2) Digitization of education and improved human resources development
- 3) Improved network contents
- 4) Gradual introduction of electronic central and regional government
- 5) Greater involvement in international activities

In addition to this, e! Project was earmarked as the national, global showcase of Japan's achievements in becoming the most advanced IT nation in the world. Under this project, the IT revolution will be brought to bear on our very lives in a real, tangible format. Some examples of this are e-Office, a multifunctional city equipped with high-speed Internet access; e-Shopping, a shopping area accessible by mobile terminal; and e-Airport, a broadband wireless LAN environment in Japan's premier gateway, Narita Airport, on display for the world to see. The e-Airport concept comprises five key elements:

- 1) e-Check-in (simplified passenger procedures)
- 2) e-Information (Integrated public transport and flight information)
- 3) e-Navigation (Tourism guides for inbound travelers with voice translation function)

- 4) Airport Network (Airport Internet access)
- 5) Baggage Free (Hands-free travel with door-to-door baggage delivery using RFID tags)

e-Check-in

There are numerous checkpoints at the airport. The first of these is at the main gate where a driver's license or passport must be produced for identification purposes. On entering the terminal, there is a baggage check, a passport check at the airline counter, followed by a security check. After that, there is the passport control counter and then finally, one more check at the boarding gate (although some airlines do not do this).

e-check-in will be the launching pad in Japan for the global SPT drive to simplify these complex procedures.

One of the key points in the system will be the introduction of biometric technology to simplify travel procedures and improve security. At the same time, all information required for travel will be in digital format and one-stop check-in will provide centralized passenger processing. NAA, in conjunction with Japan Airlines, NTT DoCoMo, Matsushita Electric along with several



other companies conducted feasibility trials over a two-month period beginning in January 2003 with backing from the Ministry of Land, Infrastructure and Transport. Further, more extensive trials will be held this autumn and will also include All Nippon Airways.

Although this trial stage is only just the beginning, the ultimate goal is the ability to identify a person wherever they are in the world and to have on hand at all times all necessary information related to travel. Conventionally, passports have been used for confirming identities by means of the photograph affixed to the passport. However, in this age of terrorism, we must assume that there are people with ill intentions. When biometrics is perfected and available throughout the world, air travel will enter into a new dimension of safety.

Baggage Free

Aircraft hold a great many pieces of baggage and on international flights they are often large and look similar. These are some of the reasons for mishandling. Paper tags with barcodes are attached to baggage but the barcodes can hold very little information such as the flight number, etc. If the barcode become soiled and cannot be scanned, it is possible for the baggage to

go missing.

RFID tags solve this problem. These have an IC chip embedded in the tag by a special method. Scanner antennas emit radio waves which read the information written to the chip and can also write new information. Because information is read by radio waves, the information can be recognized even if the tag is folded or soiled, as long as the chip is not damaged. By acting as radio wave receivers, the chips are able to store large amounts of information, such as the owner's name, address, and destination, rapidly and easily. The introduction of RFID tags will enable airports to reduce the incidence of lost baggage, cut sorting costs and improve safety.

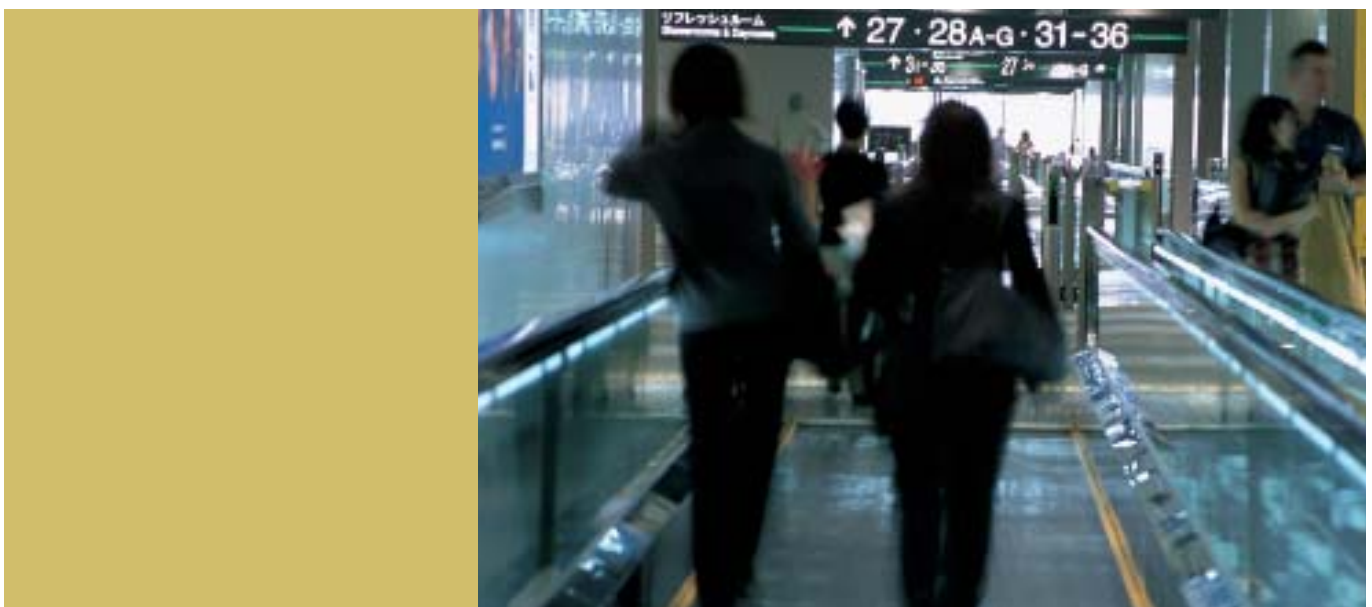
Narita Airport has launched a "hands free travel" project which will use the RFID tags to consign baggage directly from home to the airport before departing for abroad so that they can be collected at their destination. When this becomes operationally viable, it will be possible to travel abroad without being weighed down by heavy luggage and the result would be a centralized passenger baggage transport system of a type never before seen anywhere in the world.

In August 2002, the Next Generation Baggage Management Study Group

became officially operational with the Ministry of Land, Infrastructure and Transport representing the core of its membership, a model system was put together in 2003. Research is continuing and the system is expected to be introduced in 2005.

A Completely New Travel Dimension

New technology is about to usher in an age in which travel will be more comfortable and safer than ever before. This will probably not consist of extensions on existing ideals in travel but will make use of biometrics and IT to open up a completely new dimension in travel. The tragic events of September 11 2001 shook the civil aviation industry to its roots and even today it is impossible to hide the scars. From that experience, however, new trials are now emerging and it is exciting to ponder the possibilities that technology will bring next in the interests of safe, comfortable travel.



SPT

SPT is the abbreviation for Simplifying Passenger Travel and was first aired in February 2002 with the objective of simplifying the complicated travel procedures endured by passengers. The principal members of the project are international civil aviation organizations such as the International Air Transport Association (IATA) and the International Civil Aviation Organization (ICAO), airport

founders and operators, airlines, immigration authorities, Customs, and aviation related businesses, etc.

“One Stop Check” is the phrase used to express the vision of the project. The principal component is simplified travel so that all necessary travel information is distributed simultaneously to the relevant organizations during one check-in procedure, thereby allowing all of the procedures to be completed more quickly and efficiently. However, since

the terrorist attacks in the US, the spotlight has focused on the security improvements to be had through SPT. Biometric technology, which enables identification using unique physical characteristics of the individual, is a particularly important core element in this project. The perfection and widespread availability is, without a doubt, the key to the success of this project.

