# Schipol case study

Business

Just think that this problem may annually affect about 51 million passengers traveling through Siphon airport alone.

In 2004, IBMCorporation, bandleader Industries and later Greenback Automation Systems, Jointly took up the challenge of renewing the Baggage Control System for one of the biggest airport hubs in Europe, and one of the busiest in the world: Siphon Intentional Airport, in Amsterdam, the Netherlands.

Ninth an investment of around $1 billion over a period of about 10 years, Chipper's goal was threefold: (a) realize a monumental 1% maximum loss of transfer baggage (against the initial 22 million lost baggage); lb) increase capacity from 40 to 70 million bags: (c) educe cost per bag without increasing wait-times. Most to the Job involved Chipper's gigantic baggage conveyor network: 21 kilometers of transport tracks, 6 robotic units, and 9, 000 storage capacitors, all behaving as one system. Also, extending the system with more surfaces is not possible, given the land conditions surrounding the airport.

The baggage conveyor network has a simple goal: the right bag must be at the right place at the right time.

The pursue this goal the network must perform several key roles: move bags from the check-in area to the departure gate, eve bags from gate to gate, move bags from the arrival gate to the baggage claim, and plan and control peripheral hardware and software. In addition, these roles involve a wide variety of sensors, actuators, mechanical devices, and computers. The network uses over 3 million lines of source code.

Some of the advanced technology used in baggage- handling systems includes destination-coded vehicles (Docs), automatic bar code scanners, radio-frequency identification (RIFF) tags, and high- tech conveyors equipped with sorting machines. Baggage should move from its runner location to its destination before travelers do.

Or add further complications, all of this must be available and robust, I. E. Operate 39. 99% oftentimes while being able to minimize loss or damage in that 0. 01% of time it doesn't! Rhea following simple scenario summarizes the operations of the Siphon baggage conveyors network.

You arrive at check-in desk, and your bags are tagged.

The tags contain your flight information and a bar-code/Refold that all of the computers in the baggage-handling system can read. When computers n the system scan the bar code/detect the RIFF, they recess the information it contains and determine Inhere to send your boaster being scanned (at least) once, the system always knows where your bag is at any point, and is able to redirect it based on three parameters: (a) time of its flight; (b) priority: (c) size.

Bags for immediate embarkation are considered " hot". Reese are sent immediately to aircraft stands while ' cold" baggage (I. E. Low priority, distant flight time) are quickly rerouted away from the main " highway" tracks, directed towards various storage points in the network.

Docs are unmanned carts that can load ND unload bags without stopping movement. These carts move on tracks like miniature roller coasters along

the main “ highway” tracks that span the airport. Utters and not/ cold storage areas are used to avoid overcrowding. Computers throughout the system keep track of the location of each bag, its destination, and the time it is needed at that destination. The system can optimize the routes taken by the carts to get the bags needed most urgently to their destinations fastest.

Because Docs move at high speed and do not come to a full stop to receive baggage, the conveyors just be extremely precise, depositing bags where they are needed at Just the right time for maximum efficiency.

Once bags reach the gate, they enter a sorting station where airline employees use computer terminals to send bags to the correct plane. ’10 make sure that baggage is not lost, the system “ reconciles” baggage with its owner, I. E. It checks Fifth baggage and the owner are actually on the same plane! However beautiful and harmonious this process may seem, there are still many things that can go rumor.

For example, what baggage is MIS-tagged? Nat Fifth tag is unreadable? What about schedule Changes?

Baggage handling systems can be extremely expensive, but if implemented successfully, they pay for themselves – imagine saving around 0. 1% of $2. 5 billion. It’s a lot of money! The new baggage system at Siphon is not flawless. In November 2012, a special warrant by local Police was issued that required stopping the tracks at Siphon as part of a drug-smuggling investing-CASE STUDY Zion. Some of the 140, passengers that were being served by the international Hub at the time suffered baggage loss.

Sources: Based on data available online.

Partly acquired from Amsterdam Airport Siphon Case Study Video, available online. QUESTIONS 1 . How many levels of complexity can you identify in Chipper’s baggage conveyor network? 2. What are the management, organization, and technology components of Chipper’s baggage conveyor network? 3.

What is the problem that Siphon is trying to solve? Discuss the business impact fifths problem. 4. Think of the data that the network uses. What kinds of management reports can be generated from that data? Case contributed by Dianna. Tambourine and Patricia Logo, VI University Amsterdam