BAGGAGE IMPROVEMENT PROGRAM

AIR FRANCE CASE STUDY CHARLES DE GAULLE (CDG)

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BIP in Paris: Reducing mishandling by 40% at one of the world’s largest airports

The Setting

Paris Charles de Gaulle was the world’s sixth busiest airport in 2009, handling over 200,000 passengers every day. The airport serves as home to Air France KLM, the largest airline in the world in terms of operating revenues in 2008.

The airport’s baggage handling system is formidable. Its complexity is not only due to the airport’s size, but also due to the evolution of infrastructure to keep pace with Air France’s hub strategy. The current baggage system at CDG has 100 kilometres of baggage track.

To manage the baggage system’s complexity, Air France has put in place strong processes and had already implemented a track and trace solution with many tracking points along the baggage process to enable visibility throughout the system. IATA’s Baggage Improvement Program team visited the airport in November 2008 with a view to helping Air France and the airport build on their effective processes to reduce mishandling.

The BIP team spent five days at the airport, reviewing baggage processes and infrastructure from dawn until dusk and identifying which solutions from BIP’s toolkit can be applied to reduce mishandling at Charles de Gaulle.

The diagnosis required the analysis of data to understand where the problems seemed to occur, verification and additional observation in the field. Recommendations from the diagnosis identified a potential 69% reduction in mishandling – and implementation of certain recommendations have already resulted in a 40% reduction. Read on to find out more.

What we found

The BIP team identified 30 solutions from its baggage toolkit during their visit, of which 24 were selected by Air France for implementation. These solutions included:

- centralizing the management of local departure, transfer and arrival activities
- improving the response to baggage system maintenance issues
- training the check-in agents by:
  - applying strictly the rules of cut-off time for baggage acceptance
  - ensuring that the airline acceptance times between flights are respected in case of passenger rerouting
- greater control of out of gauge (bulky) baggage processes
- RFID technology to improve the track & trace system
- new tools to help decision-making in baggage flow management using track & trace data
- improvement of the baggage data warehouse for a better production control
- a better coordination between stations by sharing baggage issues and solutions
- an increase in the minimum connecting time (MCT) at CDG.

“IATA, thanks to the BIP, accelerates airline and airport implementation of standardized information systems that allow them to communicate with each other,” said Mikaël Darphin, Baggage Business Analyst for Air France. “In the coming years, we can expect global and efficient applications to monitor baggage along the entire journey. This will help to decrease in a significant way the number of mishandled baggage.”
The Solutions Used

More detail will be provided on the following three solutions, as they can be applied across the industry. These solutions highlight the essential role of having a track & trace solution in place to better manage baggage performance:

1. **Identify clearly the missing BSM origin and share it with IATA for coordinating actions**

   **Problem description**
   - When transfer baggage is injected in a baggage handling system, it is usually automatically recognised by the system thanks to the BSM (Baggage Source Message).
   - Up to 15% of mishandled baggage were “unknown” in the Baggage Information System in CDG the first time they were processed. This means that for those bags no incoming Baggage Information Message (such as BSM or BTM) was received. The baggage is seen as unknown and cannot be sorted automatically, and is sent to a so-called manual encode station where an agent read the bag tag and assigns the bag to the right carousel or chute. This baggage will still remain unknown by the Baggage Reconciliation System (BRS) when trying to load it onboard the aircraft.

   **Solution details**
   After investigation, the main reasons of the “unknown” tags were found to be:
   - Wrong first digit of the Licence Plate Code entered in the passenger files
     - At the connecting check-in counter (for non through checked-in passengers),
     - At the boarding gate for cabin baggage transferred to the hold.
   - Delayed or lost Baggage Information Message during Through Check-In (using EDIFACT) transaction.

   To minimise this issue, the following actions were taken into account:
   - Training of check-in agents to correctly:
     - Perform through check-in transaction
     - Ask the passenger for their baggage claim tag when they arrive at the connecting check-in counter, and fill the correct Licence Plate Code(s) in the passenger file.
   - Identify the outstations and airlines that trigger “unknown” tags because of wrong applications of check-in procedures and report to IATA. On that point, IATA, through the Baggage Working Group and BAA was also alerted. A follow-up has been initiated.
   - When the baggage remains unknown, as soon as the passenger has been identified, an agent can ask for the passenger bag receipt(s) to record information in system in order to perform the reconciliation.

   **Main benefits**
   The number of unknown tags has decreased, representing a 5% reduction of mishandled bags. This is an on-going activity.
2. Identify airlines sending wild rush

**Problem description**
Up to 10% of baggage declared in WorldTracer (AHL) as mishandled at CDG were in fact mishandled in an inbound station and most of the time by another carrier. The baggage has been mishandled at an upstream station and the other airline loads the baggage without rushing it (standard procedure) on the next available flight to CDG without informing the interline airline.

**Solution details**
The lost & found agents have been informed that they are expected to fill with more precision the AHL files. They must complete information such as the complete original routing. The CDG production control department, thanks to the Baggage Tracking System and the Baggage Datamart system, is then able to retrieve for each file the complete “life” of the bag and to determine whether it was mishandled in CDG or at an inbound station.

**Main benefits**
Thanks to this solution, the mishandling rate per outstation is closer to reality. Also, it allows the identification of stations where actions or investigations need to be done. The station receiving the delayed bag will be able to optimize the related treatment, thanks to anticipation, and improve the customer service.

3. Monitor the flow of departing baggage

**Problem description**
Up to 8% of the mishandled bags had been delivered to the apron within the last ten minutes before the departure of their initial flight. But due to a lack of anticipation and coordination with the ramp agent, as the holds were already closed, baggage was refused.

**Solution details**
A dedicated position was created to monitor the flows of baggage on the ten “real-time” most critical flights (departing within the next 30 minutes). This person monitors the critical baggage for connections and informs the ramp people that those bags should be delivered very quickly and are on their way, in order to make sure the ramp agent waits for those bags.

**Main benefits**
This enabled to a significant reduction in the number of baggage refused on the tarmac, resulting in a 5% reduction of mishandled baggage.
Benefits of a track & trace solution

The track & trace concept is linked to each of these three solutions:

<table>
<thead>
<tr>
<th>Role</th>
<th>&quot;Trace&quot;</th>
<th>&quot;Track&quot;</th>
<th>&quot;Predict&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives</td>
<td>Reproduce the process step by step</td>
<td>Track, Capture, Localise in real time</td>
<td>Predict, anticipate, correct business operations</td>
</tr>
<tr>
<td>Mean</td>
<td>A posteriori / history analysis</td>
<td>Data loading and real time use &amp; control</td>
<td>Support management tool solution</td>
</tr>
<tr>
<td>At CDG</td>
<td>Allow to identify baggage without BSM in system</td>
<td>Monitor the flow of departing baggage and anticipate the late deliveries to the aircraft</td>
<td>Provide accurate and reliable information across the supply chain</td>
</tr>
<tr>
<td>Data added value</td>
<td>Accuracy &amp; Reliability</td>
<td>Complete set of track &amp; trace information regarding baggage items (identification, date, status, location status, etc.)</td>
<td>Information access in real time</td>
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New rules approach

The implementation of a track & trace tool with access to all staff involved will bring added value. Once integrated with the other corporate applications such as back-office and front-office systems, the track and trace tool will provide the airlines improved performance. Staff dedicated to baggage logistics at the airport side will gain advantage of an application tool; other staff dedicated to theft control, after sales, ground handler audits, process audits, passenger services and accounting & finance will also benefit.

Aircraft operational activities could be better managed by integration of passengers and baggage operational activities via, for instance, an operational control room. Obviously this vision requires several steps towards a global collaborative management strategy with mainly two phases, described below. This will impact the existing rules and business model.
Process, organisation and business model transformations through the use of new technologies and integrated IT systems:

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
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<tr>
<td><strong>Old rules</strong></td>
<td><strong>New Rules</strong></td>
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<tr>
<td>The information is available at only one place</td>
<td>The information is available simultaneously wherever it is needed</td>
</tr>
<tr>
<td>Operational staff expend effort gathering data</td>
<td>Operational staff have informed view on data and then information</td>
</tr>
<tr>
<td>Managers make all the decisions</td>
<td>Each person can really make decisions at his own level of responsibilities</td>
</tr>
<tr>
<td>The information is not well shared between actors of a same company</td>
<td>The information is shared between all the actors for a high service level delivery (fast &amp; accurate)</td>
</tr>
<tr>
<td>Without a clear identification of responsibilities in issues, claims are shared between airlines</td>
<td>Put in place new compensation rules between all stakeholders</td>
</tr>
<tr>
<td>The information is not well shared between stakeholders / partners</td>
<td>The information is shared between all the stakeholders for a high service level</td>
</tr>
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</table>

The Results: an improvement by 40%

Despite stable baggage volume at CDG, after taking BIP and Air France solutions into account, the airline experienced a 40% improvement in baggage performance during the 4th quarter of 2009 as compared to 2008. This fantastic achievement has been achieved by the local Air France team and is an example of great teamwork between operational and IT functions.

"Air France is proud to participate in the IATA BIP through a diagnosis visit at its main CDG Hub," said Hugues Marchessaux, Baggage Department and Hub Subcontractor Director for Air France. “Many actions have been launched in coordination with BIP recommendations in order to fix baggage issues. These actions are already bearing fruit.”

IATA Acknowledgements

IATA would like to sincerely thank Air France for their partnership and leadership in reducing baggage mishandling across the industry. IATA expresses its appreciation for sharing their baggage performance results and continuing a mutually beneficial relationship that has resulted in lower costs for the industry and better service for the passenger.