Leveraging Personal Bluetooth Trackers for Enhanced Baggage Tracking

IATA Whitepaper

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1. Introduction

This white paper examines the growing trend of airline passengers utilizing personal Bluetooth trackers to monitor their checked baggage in real-time. It addresses the challenges and opportunities associated with integrating these trackers into airline operations and emphasizes the importance of collaboration, standardization, and passenger education to ensure accurate and efficient baggage tracking throughout the journey.

2. Background

In recent peak travel seasons, an increasing number of passengers have embraced Bluetooth trackers to monitor their checked baggage. However, this has led to confusion due to conflicting information between the passengers' Bluetooth devices and the airlines' baggage tracing and monitoring systems, raising concerns about the accuracy of both systems.

To comply with IATA Resolution 753 and meet operational requirements, airlines are expected to track baggage at a minimum of four points during its journey. Resolution 753 also mandates the exchange of baggage tracking information among airlines.

However, full implementation of this resolution is lacking in the industry, resulting in a gap in real-time tracking information provided to passengers. Consequently, passengers have resorted to personal Bluetooth trackers to obtain their baggage status, despite a lack of clarity and understanding regarding the requirements for these trackers to provide accurate information. This confusion has led to situations where passengers open delayed baggage files and leave the airport without their bags, even when the bags have already arrived. Such situations are creating additional operational challenges and unnecessary cost to the airline industry, ultimately affecting their customer service.

Airlines and airports rely on various tracking technologies, including manual tracking, traditional barcode tracking, and RFID technology, to monitor baggage movement from check-in to arrival. While Bluetooth technology is less commonly used by airlines due to certain limitations, most personal Bluetooth trackers used by passengers are user-friendly, require less data, and offer longer battery life. They emit Bluetooth signals that anonymously connect to nearby active devices, providing encrypted location information about the tracked item to the owner.

3. Challenge

Baggage operations extend beyond simple geolocation information sharing; they require tracking technology that seamlessly integrates with airlines' operational systems. The successful exchange of electronic messages among stakeholders (airlines, airports, ground handlers) involved in baggage handling is crucial. These messages facilitate baggage handling through the baggage handling system (BHS) and ensure timely arrival at the aircraft side, synchronized with passenger boarding. Subsequently, proactive sharing of baggage data with downstream stations allows for efficient handling. Tracking devices, including Bluetooth trackers, generate these messages and transmit them to different parties involved in baggage handling, such as the airline's departure control system (DCS) and the airport BHS. However, further development is necessary to ensure that Bluetooth technology can accurately identify and read a bag without interference from other bags' Bluetooth signals in the vicinity.

Furthermore, improved collaboration among passengers, Bluetooth tracking solution providers, airports and airlines is essential to leverage data from personal Bluetooth trackers for operational use. Currently,

there are no specifications or standardized integration methods for these devices with airline systems. Standardization and control pose additional challenges, including the risk associated with the lithium battery content of these active devices and potential signal interference affecting flight operations.

Many personal Bluetooth trackers are not specifically designed for travel purposes. The lack of passenger awareness regarding the appropriate use of these devices during air travel further contributes to miscommunication and confusion. Manufacturers have a responsibility to educate their clients about the proper use and limitations of Bluetooth trackers.

4. Opportunities

The utilization of data from personal Bluetooth trackers has the potential to complement airline operational data, leading to an enhanced passenger experience and a reduction in baggage mishandling incidents. Exploring the applicability of these user-friendly Bluetooth trackers for operational tracking is of great importance, especially as airlines expand their off-airport operations, such as off-airport check-in and door-to-door delivery, which necessitate tracking across wider areas. Tracking data beyond the airport premises is limited for airlines, making personal Bluetooth trackers a unique opportunity to address the challenge of tracking baggage in broader areas outside of the airport.

Furthermore, personal Bluetooth trackers offer the possibility of cost-effective and simplified baggage tracking, eliminating the need for investments in expensive tracking readers for the BHS. This could potentially alleviate the cost burden associated with expensive infrastructure and enable greater collaboration between airlines and small and emerging airports to establish the necessary capabilities for baggage tracking. Additionally, the challenges related to tracking baggage in remote areas of an airport could be resolved through the emergence of tracking technology that relies on crowd-sourcing information, particularly where dedicated tracking infrastructure is lacking.

5. Conclusion

In conclusion, baggage operations are intricate, and passengers expect flawless service within a highly regulated operational environment where tracking and message exchange play critical roles in ensuring smooth handling., IATA and its member airlines recognize the passengers' need for real-time tracking information regarding the whereabouts of their bags throughout the journey. They also acknowledge that implementing Resolution 753 in full would enable the provision of real-time baggage tracking updates to passengers.

IATA and its members emphasize the importance of manufacturers of personal Bluetooth tracking devices educating their clients about the proper use and limitations of these trackers, enabling a clear understanding of the requirements for obtaining accurate geo-location information. Additionally, IATA and its members highlight the significance of collaborating with solution providers to establish standardized practices. Non-harmonized standards and procedures not only mislead passengers but also hinder airlines from meeting passenger needs and impede potential improvements through collaboration.

IATA and its members are prepared to collaborate with personal Bluetooth tracking solution providers to ensure the accuracy of information and maximize the passenger experience through efficient baggage handling. Moreover, solution providers are invited to join industry working groups to contribute to the

development of harmonized standards, creating a mutually beneficial scenario with airlines to better serve their shared clientele. The IATA Baggage Working Group meeting is scheduled to be held in Madrid, Spain from 18th to 21st September, 2023.
We extend our invitation to all Bluetooth manufacturers and solution providers to join the "Bluetooth Tracker" session on September 18th, 2023. To participate, kindly send an email to baggageservices@iata.org.
Furthermore, we are preparing for a hackathon in early 2024 aimed at resolving the data integration challenges between Bluetooth trackers and airline baggage systems.

In the future, as the collaboration between manufacturers, airports and airlines matures and enables the integration of data from personal Bluetooth trackers with airlines' operational data, passengers' consent will play a pivotal role in allowing airlines to utilize the information from Bluetooth trackers for improved baggage handling throughout the journey.