Simplifying the Business

Innovating better together
to benefit the future passenger

StB
Simplifying
the Business

Foreword

Simplifying the Business (StB) is an air travel industry change program focused on transforming business practices and processes to benefit the customer and the industry. StB has an 11-year track record of innovating and delivering value to the entire industry.

Forward-thinking companies like Airbnb have transformed their respective industries, introducing business models that are more customer-centric, which, in turn, is changing consumer habits and opening the door to new business opportunities. At the same time, our industry is evolving towards air retailing, enabling consumers to "shop-order-pay" for air products across all channels.

StB is the catalyst for this new transformation. It is the engine, as shown on the cover, which takes ideas as fuel and accelerates the pace of industry change.

StB has already delivered transformational initiatives like electronic tickets, common use self-service, mobile boarding passes, etc., significantly reducing airline costs while providing customer convenience. More recently, StB enabled transparent and rich comparison shopping with the New Distribution Capability, driving a more personalized customer experience during the journey.

Transformation is increasingly becoming digital, driven by consumers and supported by technological innovators. StB needs to lead more disruptive change to successfully bring the shopping and journey experience to the next level. To that end, StB is leading industry change, engaging every stakeholder; to develop standards and recommended practices through pilots, a StB Think Tank, White Papers, hackathons, etc.

To drive change, speed, agility and creativity are paramount, as is a mindset of collaboration. StB has built an industry data model and a collaborative platform to make standard development a focus of 2015. StB is also focusing on how change can be implemented faster. StB was launched based on a win-win principle, meaning that initiatives selected in the program benefit all the stakeholders involved in the implementation. This principle ensures that all stakeholders will partner for mutual benefits.

The value of StB initiatives continues to unfold, gaining industry cooperation and trust by all stakeholders (airlines, airports, governments, ground handlers, technology providers, travel agents, etc.). More than ever, the speed and scope of change require all of us to work closely together and to collaborate for a mutually beneficial future. This is precisely the theme of the 2015 White Paper: transformation through collaboration.

This paper outlines the overall StB program goals, the status of 2014 White Paper and the outcome of the 2015 StB Think Tank work sessions. The intent is to stimulate conversation and share ideas that will lead to ongoing industry transformation.
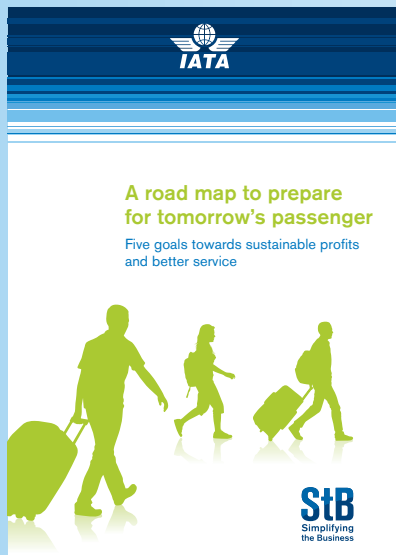
Let's keep on driving change together and welcome disruptive change if it improves the passenger experience and simplifies the business of flying.
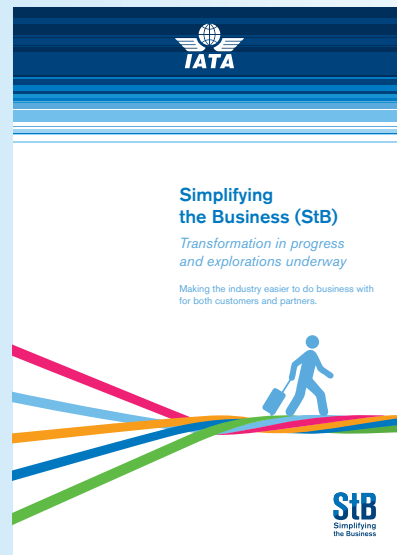
Sincerely yours,

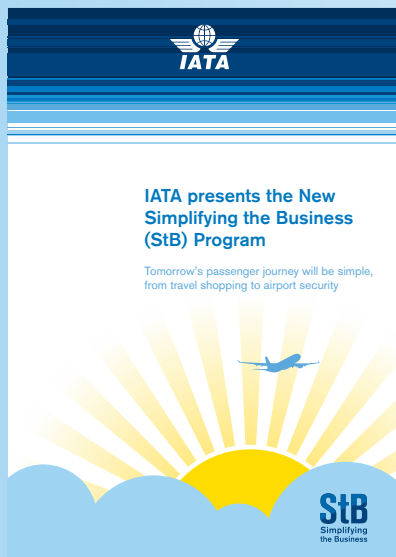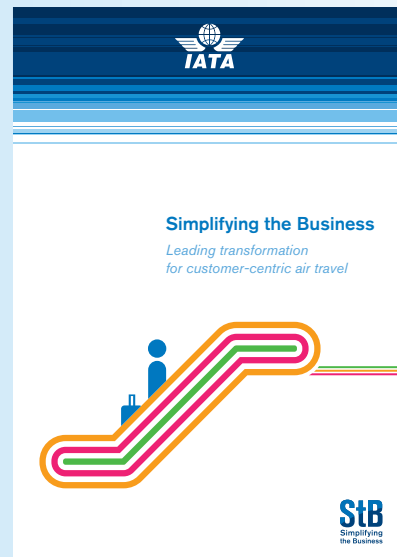Eric Léopold
Director Transformation
IATA

2011

IATA

A road map to prepare
for tomorrow's passenger

Five goals towards sustainable profits
and better service

StB
Simplifying
the Business

2012

IATA

IATA presents the New
Simplifying the Business
(StB) Program

Tomorrow's passenger journey will be simple,
from travel shopping to airport security

StB
Simplifying
the Business

2013

IATA

Simplifying
the Business (StB)

*Transformation in progress
and explorations underway*

Making the industry easier to do business with
for both customers and partners.

StB
Simplifying
the Business

2014

IATA

Simplifying the Business

*Leading transformation
for customer-centric air travel*

StB
Simplifying
the Business

2015

IATA

Simplifying the Business

Innovating better together
to benefit the future passenger

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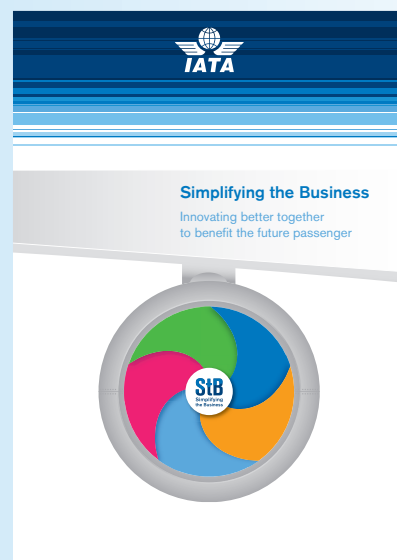
Executive Summary

The annual StB White Paper is the result of the work completed by the StB Think Tank. The StB Think Tank is the ideation body of the StB program; composed of a subset of StB airlines, various aviation partners/bodies and technology providers.

Under the principle of partnering for mutual benefit and championing the big picture (two of the four IATA brand values) the StB Think Tank meet to discuss new ideas and potential initiatives to introduce to the industry. These ideas are either completely disruptive or innovations to improve existing processes.

StB is a change program based on two main pillars: ideation and implementation. The latest ideas developed by the StB Think Tank like NDC, ONE Order and the Future End-to-End experience are strongly disruptive for our industry and represent tremendous effort to develop. Moreover, all the current and future initiatives are totally interconnected and cannot be addressed individually in silos, but in an integrated manner.

Therefore, this year, the focus was on further articulating the 2014 ideas and developing the integrated storyline to paint the "big picture" around simple concepts that encompass the passenger end-to-end journey:

Shop | Order | Pay | Engage | Experience

This work was necessary to help bring the different pieces together and clarify the interdependencies to ensure an efficient outcome. Also in further developing the experience section, the focus was on two new ideas: passenger process optimization at airports and one identity.
This document:

- introduces the overall StB program, vision and methodology

- describes the StB goals and roadmap

- provides the current status of StB projects

- highlights the outcome of the 2015 Think Tank sessions

- outlines the next steps and conclusion

The White Paper will be widely discussed at the October 2015 IATA World Passenger Symposium (WPS) where the ideas will be elaborated and debated.

Annual StB White Papers can be found at www.iata.org/stb

StB Overview

The Program

The Simplifying the Business (StB) program includes multiple IATA transformational projects that cover different areas of aviation, with a specific focus on the passenger. There have been many successful projects and initiatives since its inception, including e-ticket and bar-coded boarding pass. StB is the only program that looks at the entire passenger experience. This unique view allows StB to continue to include projects/initiatives that aim to transform the entire experience.

Benefits

The StB program benefits both the passenger and stakeholders including airlines, airports, travel agents, ground handlers and system providers.

Goals

StB is comprised of three comprehensive goals.

Goal 1
Airline Products

Empower airline retailing and merchandising.
The Airline Products transformational projects include the IATA flagship transformation program NDC and 2014 idea ONE Order. E-services was successfully closed at the end of 2014.

Goal 2
Real Time Interaction

Provide customers with trusted, accurate and real-time information from all operators throughout their journey.
The Real Time Interaction transformational projects include Customer Contact Information and the 2014 idea, Travel Communications.

Goal 3
Seamless & Hassle Free

Eliminate or optimize processes and related wait times throughout the passenger journey.
The Seamless and Hassle Free transformational projects include Smart Security, Baggage XML, Fast Travel and Security Access and Egress and the 2014 idea, Future End-to-End Experience.

Unique Methodology

The key elements of StB are based on its methodology. This includes a rigorous project selection, based on specific criteria. There are also project phases, driven by stage gate reviews. The methodology is necessary to ensure a successful StB program.

Project criteria

In order for a project to be under the StB umbrella, it must meet one or more of certain criteria including: generate industry savings, deliver transformational industry change and bring benefits to airlines and passengers as well as other stakeholders. In addition, each project must have clear objectives/targets and tangible deliverable(s)/end goal(s) to deliver consistency and success.

Project phases

Using program cycles, the projects within the three goals are listed under five different phases: conceptualization, exploration, development, implementation and closure.

- Conceptualization: Illustrate and sketch the concept. Identify KPIs and reasons for the concept to be explored.

- Exploration: Assess feasibility and develop an industry business case based on the identified KPIs.

- Development: Develop the "product" (e.g., standard, recommended practice, implementation roadmap, etc.)

- Implementation: Implement the project, including industry mobilization and market adoption – according to the target roadmap.

- Closure: Ensure the vision/target was achieved and close the project as a StB project. The initiatives are now transferred to operations.

Industry mobilization and engagement

Another unique attribute is how StB mobilizes the industry to deliver the target when projects are in implementation phase. There are designated airline champions that own the process within their own airline. The mobilization effort also relies on strong support from IATA's Board of Governors (BoG) and Strategy and Policy Committee (SPC) – a subset of the BoG. In addition, there are workshops, and campaigns that are regularly delivered to the industry as well as communications including dedicated IATA webpages and social media.
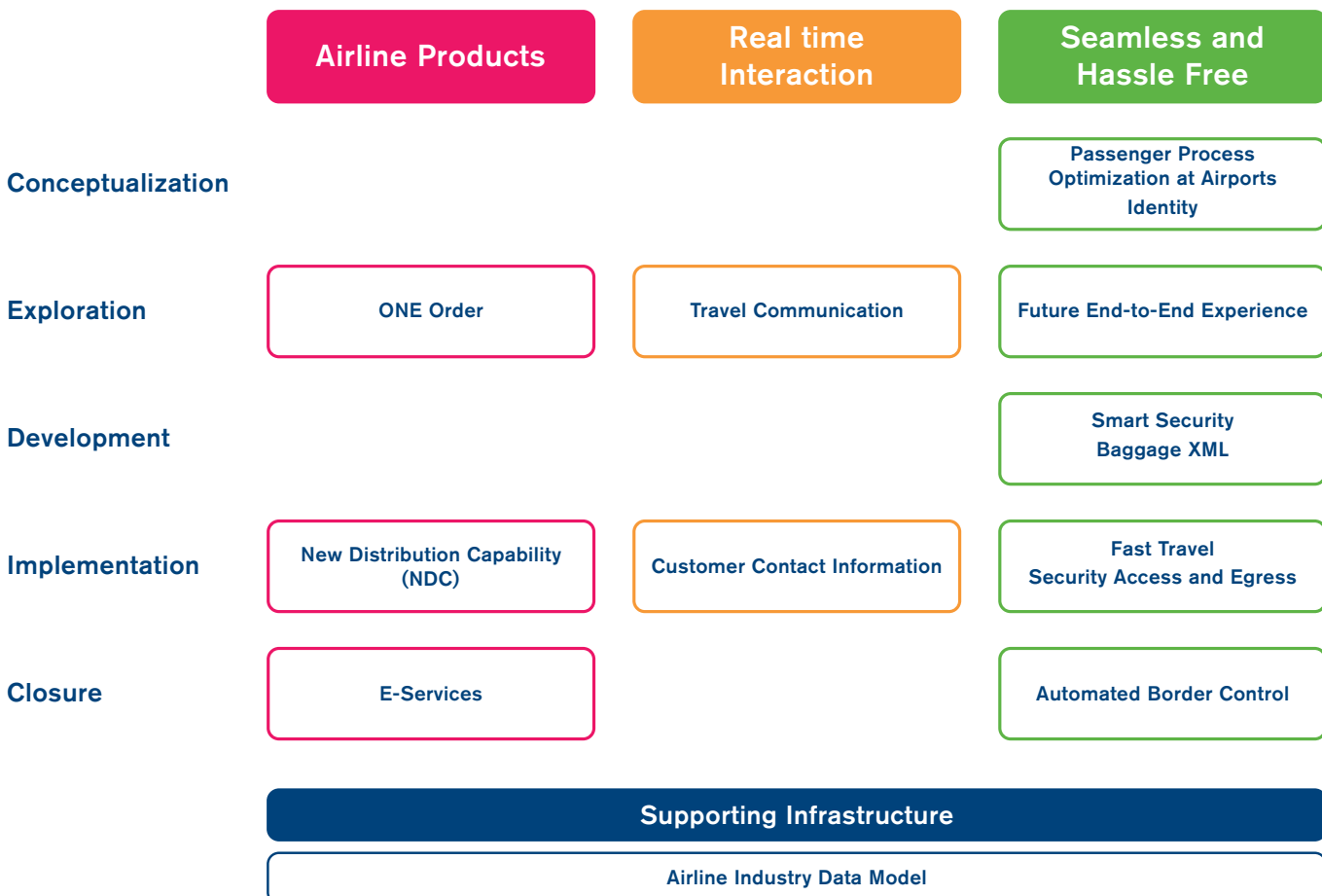
Governance
StB Steering Group

The StB program is governed by the StB Steering Group (SG). The StB SG includes up to 15 airline members directly appointed by their CEO who advise IATA management on the StB program strategy and execution. The group provides IATA with guidance and ensures the StB projects are relevant and meet the needs of IATA members. Each member is responsible to brief their CEO on the activities of StB. Finally, the StB activities are reported twice a year to the IATA BoG and SPC, who review and guide the StB program.

StB Think Tank

The Think Tank consists of an annual rotating membership of several StB SG members and other partners from specific industries – depending on the topics discussed. The Think Tank focuses on ideation and new initiatives that can potentially be pursued as a StB project. The StB Think Tank publishes this annual White Paper to stimulate conversation and share innovative ideas that will lead to industry transformation.

IATA World Passenger Symposium (WPS)

The WPS gathers stakeholders from across the industry to focus on the passenger. The WPS is important for the StB program, since it is an opportunity to highlight and discuss the StB projects as well as the work that has been done by the Think Tank – more specifically, the White Paper. It is the forum where IATA provides the industry agenda and strategy for the years to come on everything relating to passenger. It's also the place where standards are voted through the various conferences taking place simultaneously. In addition, a StB workshop has been introduced to the 2015 WPS agenda to further align StB with the wider community and emphasize collaboration.

IATA WORLD PASSENGER SYMPOSIUM

	Airline Products	Real time Interaction	Seamless and Hassle Free
Conceptualization			Passenger Process Optimization at Airports Identity
Exploration	ONE Order	Travel Communication	Future End-to-End Experience
Development			Smart Security Baggage XML
Implementation	New Distribution Capability (NDC)	Customer Contact Information	Fast Travel Security Access and Egress
Closure	E-Services		Automated Border Control

Supporting Infrastructure
Airline Industry Data Model

Current Projects

The StB projects listed below are in the *exploration, development*, *implementation* and *closure* phases.

Goal 1: Airline Products

New Distribution Capability (NDC)
Implementation

NDC is a travel industry-supported program launched by IATA for the development and market adoption of a new, XML-based data transmission standard (NDC standard). The NDC standard enhances the capability of communications between airlines and travel agents and is open to any third party, intermediary, IT provider or non-IATA member, to implement and use.

IATA Resolution 787 "Enhanced Airline Distribution", was approved by the U.S. Department of Transportation (DoT). In addition, the first set of end-to-end NDC technical schemas was released, allowing any travel technology supplier to start building its roadmap for the next generation of NDC-based airline, agency, or corporate booking solutions.

The PADIS mail vote was completed on 24 July with unanimous support on NDC end-to-end schemas. The declaration of standard effectiveness for the first set of industry NDC schemas was issued on 1 September 2015. IATA continues to engage travel partners across the industry to ensure alignment and cooperation with all stakeholders.

The focus in 2015 was on implementation and ensuring at least eight airlines worldwide are performing a live transaction by agent request. The team is on track to deliver the target.

Goal 2: Real Time Interaction

Customer Contact Information
Implementation

The customer contact information project aims to enable airlines to interact with the customer at anytime and anywhere. The scope of the project was also to provide airlines with the ability to obtain the passenger contact details in the PNR by developing standards and recommended practices for contact information to be able to reach the customer with any relevant information pertaining to their journey (i.e., specific information in the event of disruption).
IATA is establishing an industry baseline for agent PNRs with passenger contacts and developing a roadmap with targets for early industry adoption.

ONE Order
Exploration

ONE Order was formerly referred to as the Customer Order Transformation (COT) project in the 2014 StB White Paper. The basic concept behind ONE Order is a single Customer Order record holding all data elements obtained and required for order fulfilment across the travel cycle (i.e. customer data, order items, payment and billing information, fulfilment data and status).

The concept supports three major objectives:

- improve customer servicing

- reduce process and system complexity and cost

- allow a new level of interoperability between full service carriers, ticketless carriers and other travel and service providers

In 2015, a design document and feasibility study were completed.

Complementing NDC, this initiative is designed to modernize the multiple and rigid booking, ticketing, delivery and accounting processes with one flexible order management process.

E-services
Closure

The IATA e-services project aimed to facilitate the implementation of the Electronic Miscellaneous Document (EMD) IATA standard.

The e-services project was successfully closed at the end of 2014, with 100% EMD in Billing and Settlement Plan (BSP) achieved.
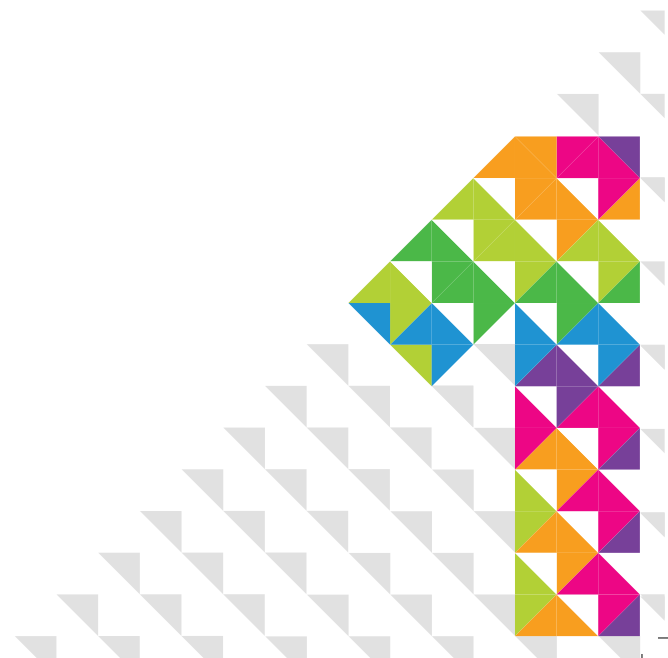
Goal 3: Seamless & Hassle Free

Smart Security
Development

Passenger security screening process works—but at great cost and inconvenience to government authorities, airports, the airline industry, and to passengers themselves. Given the predicted growth in air travel—and continuously evolving security threats—today's model is not sustainable for the long term.

Smart Security aims to enable an uninterrupted journey through the airport where passengers proceed through the security checkpoint with minimal need to divest, where security resources are allocated based on risk, and where airport amenities can be maximized.

IATA and the Airports Council International (ACI) are collaborating on the deployment of Smart Security proof of concept implementation at various airports and respective governments. In addition, an opportunity assessment process was developed and will be delivered to a number of select airports.

Security Access and Egress
Implementation

The Security Access and Egress project sets out to improve the passenger flow at the security checkpoint with existing technology and infrastructure in order to support passenger growth and reduce delays caused by security.

IATA and ACI are working together to analyze passenger flows with the aim of increasing efficiency, reducing waiting times and improving passenger satisfaction by tackling elements that can be improved through passenger information, passenger identification, education and process redesign.

In order to better align our efforts, at the end of 2015, the Security Access and Egress project will merge with the Smart Security project.

Baggage
Development

The aim of the Baggage XML project is to focus on standardizing the data and the interfaces, by leveraging XML technology as well as redefining the overall information exchange architecture.

The project has adopted a data model driven methodology leveraging the IATA Industry Data Model to ensure cross-domain semantic alignment and interoperability.
Baggage XML will modernize current legacy standards. Additionally, the more effective and efficient messaging will drive savings, cut costs, reduce baggage mishandling and the need for manual intervention.

In 2015, the Baggage XML Working Group conducted the first pilot in the series in which baggage XML messages were successfully exchanged between airlines, airports, and IT service providers. This pilot demonstrated the feasibility of the envisaged technologies for the new messaging standard. In addition, the final Baggage XML Business Requirements Document was submitted to and approved by PADIS.

Fast Travel
Implementation

The Fast Travel initiative responds to consumer demand for greater convenience and control. It consists of six projects designed to offer a range of self-service options that give passengers more control over their journey: check-in, bags ready-to-go, document scanning, flight re-booking, and self-boarding and bag recovery. The IATA Board target for 2015 is to attain 35% global Fast Travel penetration.

Automated Border Control
Closure

ABC aims to improve the management and control of travel flows at the border by reinforcing checks while speeding up border crossing of regular travelers. This enables border guards to cope with the ever-rising number of border crossing without compromising security.

At the end of 2014, ABC was closed as a StB project and is now part of operations since 2015.

Supporting Infrastructure

Airline Industry Data Model
Implementation

IATA's Airline Industry Data Model is an infrastructure project that will upgrade our messaging standards development capability. Structured information will be available in an electronic repository. It will store industry-agreed vocabulary, data definitions and their relationships as well as the related business requirements. Viewable by anyone, it is equally available for developers to use in their own systems.

AIDM aims to become a common point of reference to generate messaging standards that are interoperable (i.e. work with each other much better), faster to develop and easier to implement.

Together with airlines and select service providers, IATA delivered the industry capability and developed a new end-to-end message development methodology to be used by industry groups in need of new messaging standards. This methodology covers modeling information and message modeling. The first industry training took place in February 2015 and the next session will be in November.

The AIDM project will close in 2015 as the newly built capability moves to operations to support daily standards development activities. The industry data architects will continue populating AIDM with models relating to core industry concepts and improving both the methodology and the underlying tools as new experiences arrive.

Shop   **Order**   **Pay**   **Engage**   **Experience**

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SHOP-ORDER-PAY

The airline commercial distribution ecosystem is no different than any other industry and can be considered simply like any retailing entity following a shop-order-pay cycle. However, the industry has been constrained by incremental change as opposed to radical modernization. In line with the IATA vision to "be the force for value creation and innovation", true industry transformation of shop-order-pay processes is envisioned in the following way:

🛒 Shop

From distribution to airline retailing

The NDC standard enhances the capability of communications between airlines and travel agents.

The NDC standard will enable the travel industry to transform the way airline products are retailed to corporations, leisure and business travelers, by addressing the industry's current distribution limitations:

- Product differentiation and time-to-market

- Access to full and rich air content

- Transparent shopping experience

The NDC standard will allow an airline to make sales offers to agents without them being prepared by a third party as an intermediary. The sales offers can be aligned to current inventories and customer status rather than based upon previously filed products (i.e. dynamic and personalized offers are possible). It also unlocks opportunities for the airline to manage other components throughout the indirect distribution process such as the opportunity to fulfill the transaction, create the booking record, issue the document(s) and respond with confirmations – should they choose to do so.

☑ Order

From complex processes to standard order management

NDC is the catalyst to transform current airline shopping and merchandising with new offer and order management processes integrated into today artifacts like PNR, ET or EMD. Leveraging NDC, the ONE Order initiative aims to modernize the booking, ticketing, delivery and accounting processes with one single and flexible order management process.

It will move from 40 year-old airline-specific processes to current retail industry order management concepts. It should significantly reduce the reliance on specific knowledge and seriously speed up the time we can train new staff, solve problems, launch new products and innovate.

The ONE Order standard is an opportunity to modernize capability between airlines order management systems and any third parties systems involved in delivery or accounting processes.

Within the airline systems world, and going beyond NDC and ONE Order, it can be assumed that more airlines may take advantage of standard Enterprise Resource Planning (ERP) systems in which airline orders could be stored as standard ERP orders. As a result, airlines could reduce the amount of legacy airline systems they require and perform revenue accounting functions as any other "stand-alone" financial accounting, leveraging standard ERP applications if they decided to do so.

💳 Pay

From 'one size fit all' to more customer-centric payments

Pay is an area that IATA is beginning to look into. It is an important element of the shop-order-pay idea. There are various areas of exploration in the payment area. The vision is to provide passengers with seamless payment solutions and the ability to pay anywhere. The aim is also to remove infrastructure barriers and simplify online payments, making the payment processes as simple and user-friendly as possible.

Shop-Order-Pay booth at IATA AGM (Miami - June 2015)

ONE Order in detail

Formerly described as "Customer Order Transformation " in last year's StB White Paper, then presented to IATA Board of Governor's meeting in December 2014, this exploration created great interest amongst airline CEOs. In 2015, various airlines and industry vendors worked together with IATA to design the details behind the 'ONE Order' concept.

ONE REFERENCE   **ONE PROCESS**   **ONE INDUSTRY**

ONE Reference

- Gradual disappearance of the PNR, e-ticket and EMD concepts to be replaced by a single reference travel document.
- New standardized and expandable reference will become the only access point for customer order by 3rd parties (interline partners, distribution channels, ground handling agents, airport staff, etc.)

ONE Process

- Facilitate the settlement and product delivery between airlines and their partners with a simpler, single and standardized order management process.
- All parties will follow this unique process to service the customers throughout the entire product purchase and delivery experience.

ONE Industry

- Enable network airlines and ticketless carriers to interact and provide combined services to customers.

Benefits

An extensive study across various industry stakeholders was conducted this year and indicated that there are clear industry benefits from commercial, innovation and flexibility perspectives:

- Enhanced servicing and information capabilities will improve customer experience and loyalty;

- Process simplifications will help reduce IT costs significantly, with the opportunity to start utilizing more standard solutions rather than bespoke airline systems;

- Further savings are expected by removing constraints and inefficiencies from legacy processes around PNRs, ETKTs and EMDs, especially in cases of irregular operations;

- Airlines and travel retailers will also be enabled to bring products to market more effectively, and increase ancillary spending;

- Finally this should greatly simplify interaction between traditional airlines and ticketless airlines, but also between airlines and other entities within the travel and retail trade.

Opportunity

ONE Order is an opportunity for the industry: the longer term benefits justify that we as an industry look at it more closely. It is the logical consequence and next step for modernizing airline sales and service after NDC, and can build on the success and momentum of NDC.

Challenges

Main challenges identified this year:

- Costs related to the transition and information technology

- Transition management risks and industry stakeholder buy-in

- Resiliency risks associated with purely online and real-time interaction systems – where timing is critical (i.e., in an airline environment)

Next Steps

IATA presented the outcome of the industry case for change feasibility study conducted across many industry stakeholders to StB Steering Group.

The StB Steering Group conclusions and recommendations will be presented to the IATA Board of Governors meeting in December 2015 to move this initiative in standard development phase. IATA will then drive this development to facilitate standard messages and workflow between stakeholders interacting with the order.
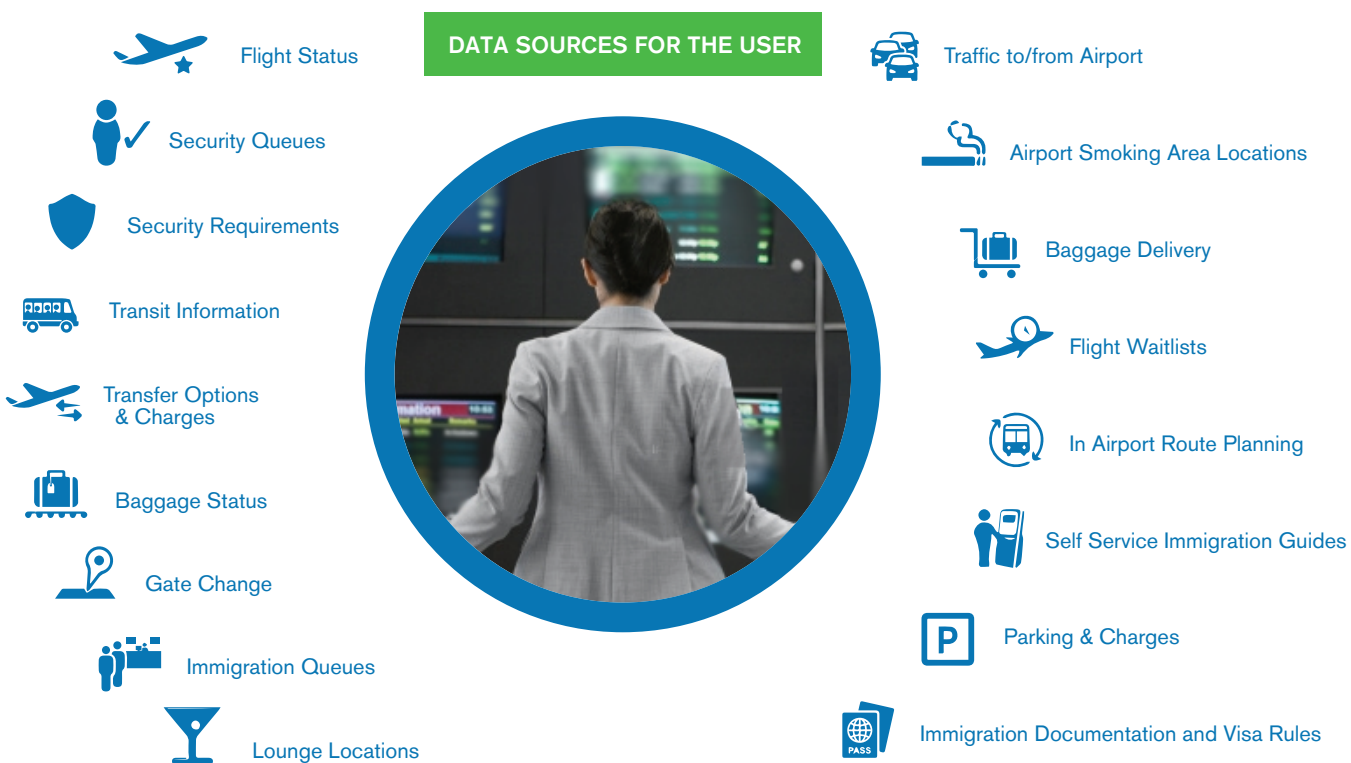
ENGAGE

Travel Communication

The Travel Communication idea aims to greatly improve the passenger experience whilst lowering costs for all industry stakeholders by providing a set of standards to enable those stakeholders to provide their customers with accurate, trusted and timely information related to their journey.

Vision

Today's digital world expects scalable social communication - we all expect to be able to find out what we need to know, when we need to know it and with the minimum of effort. In order to meet these expectations, the industry needs to move from a model of centrally-controlled, closely-guarded access data to one of widely available, open and transparent communication of useful information.

DATA SOURCES FOR THE USER

- Flight Status
- Security Queues
- Security Requirements
- Transit Information
- Transfer Options & Charges
- Baggage Status
- Gate Change
- Immigration Queues
- Lounge Locations

- Traffic to/from Airport
- Airport Smoking Area Locations
- Baggage Delivery
- Flight Waitlists
- In Airport Route Planning
- Self Service Immigration Guides
- Parking & Charges
- Immigration Documentation and Visa Rules

Courtesy of Travelport: Travelers expect access to a wealth of information

More specifically, the definition of a data transmission standard, combined with a 'trusted source' certification, for multiple types of information will enable solution developers worldwide to incorporate this timely and accurate information into their mobile apps, desktop applications, customer service systems or any other customer facing application. In this way the owner of the information knows that by updating the original source they can reach the customer in the customer's chosen communication channel and don't need the customer to come to them.

How does the industry benefit?

Social media is already providing cost effective, scalable ways for large retailers to provide personalized customer service. The ability provided by the Travel Communication idea will afford similarly cost effective ways to engage and inform the travelling public.

| Airlines	Governments	Non Air Providers
- Engage and inform customers	- Inform travellers of visa requirements etc	- Interrogate data feeds to improve customer service
- Reduce customer service costs	- Increase throughput at immigration	- Reduce customer service costs
- Improve customer satisfaction		
Airports	**Travel Agencies**	**3rd Party Applications**
- Accelerate customers through security and check-in	- Reduce customer service costs	- Provide greater value through aggregation of information
- Reduce customer service costs	- Engage and Inform your customers through IT not people	- Innovate on top of trusted data

Travel communications today
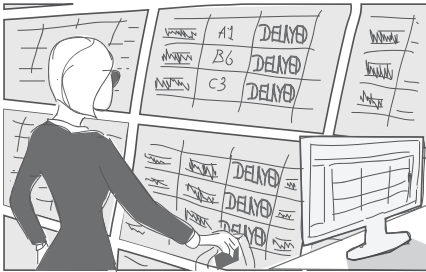
Deborah is checking out of her hotel and is looking at her flight schedule, and apparently her flight is delayed.

The concierge looks up Deborah's flight on the airline website as she calls her travel agent and compares it with her travel app.
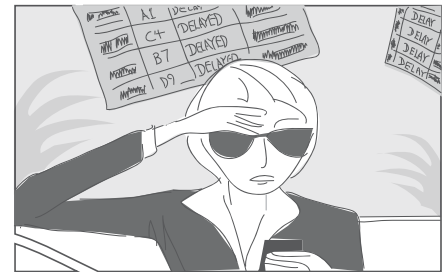
Deborah is now confused, she has compared three different sources of information and none of them are the same. Who does she trust?

Travel Communications are often
- Managed by multiple parties
- Inconsistent
- Inaccurate
- Uninformative

Progress to date

The exploratory initiative is composed of three elements:

- Buy-in achieved - Stakeholders across the industry and air travel value chain agree to release or give access to their information through API's.

- The notion of a single 'trusted' source is both viable and feasible from the business and technical perspective.

- A business case can be determined to show value to all stakeholders.

The first workshop was held at the beginning of June 2015 to establish real world use cases.

Next steps

A proof of concept is foreseen for November 2015 exchanging at least one service between one airport and one airline. Furthermore, the airport/airline pairing will demonstrate the feasibility of airline/airport alignment and technical feasibility.
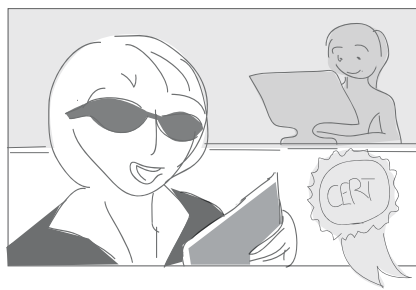
Travel Communication tomorrow

If the StB Think Tank can achieve the goals of the Travel Communication idea then hopefully this will achieve a better experience for Deborah.
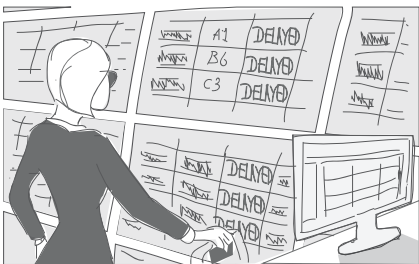
Deborah with "trusted" travel information

Deborah is checking out of her hotel. She looks at her third party app for flight delays. The flight is delayed, but she has no worries.
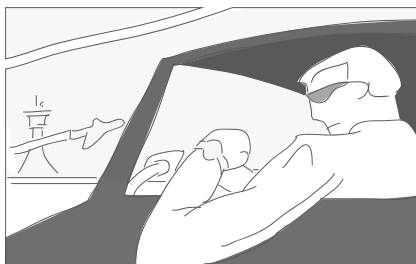

There's no need to ask the concierge to look up flight info. Her app is reliable and will send a push notice if there are any changes.
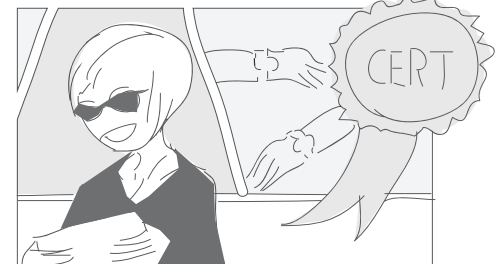

Deborah looks for a place to grab breakfast and check her email.

Certified information allows for Deborah to know what's happening at every point of her journey.

Deborah's limo service has the same reliable info. The limo driver's schedule improves and his manager notices the difference in his companies performance.

It's as if airlines have synchronized watches with passengers. Trusted information has made flying easier for travelers like Deborah.

EXPERIENCE

Future end-to-end experience
## - Transforming the entire customer journey

The global aviation industry will transport over 3 billion passengers in 2015. Today, 39 out of the 47 global aviation hubs are already capacity constrained. In the next 15-20 years air travel is expected to more than double. Aircraft manufacturers forecast that the industry needs between 25 000 and 32 000 new passenger aircraft deliveries to meet this demand.   The global aviation industry must respond to the challenges posed by growing passenger volumes and landside passenger infrastructure constraints by eliminating those touch points where the same checks, controls and verifications are done repeatedly. This means that the passenger journey needs to change dramatically from today's process which involves multiple stops at multiple touch points managed by multiple stakeholders. Moreover, we need to avoid or reduce infrastructure investments in airport terminals by significantly increasing the throughput of the existing facilities while enhancing the customer experience.

There were two specific topics that were focused on in 2015: passenger process optimization at airports and identity (see following sections in this White Paper).

In 2014, IATA introduced the vision of a transformed door-to-door experience, from fragmented steps to one harmonized integrated process. One element included allowing the passenger to walk seamlessly through the airport, without breaking stride.

The concept of a seamless experience is that passengers can fulfil most requirements for their journey prior to leaving home. This includes not only airline and airport processes but also allows all regulatory requirements to be completed with minimal stops at the airport.

Over the years, air travel has evolved from validating travel documents at different stops (whereby passports are scanned, visas checked and confirmed, and baggage tagged and accepted) all prior to entering the secure area. The ever-growing adoption of new technology and self-service options has significantly streamlined processes and in many places today, these stops have been reduced to physical baggage acceptance only and authorization to proceed through security and immigration. There is still a need to address the growing requirement for an efficient means of using and transmitting passenger data to facilitate cross border travel.
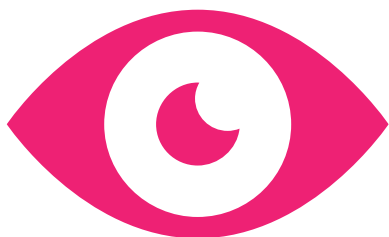
The physical screening process for passengers and their hand baggage has strengthened in terms of security but degraded in terms of speed and experience. Existing programs have demonstrated that technology and process innovations with the potential to improve the experience are available today. Several security processes are also including identity verification and reconciliation, in addition to required physical controls. The aviation industry, together with governments, are to collaborate in building synergies between the different security requirements and industry processes, with the common objective to improve the passenger experience and security.

The remaining step in the process is boarding. Where previously this was a relatively benign step, it is now becoming the only point for the airline to comply with its document verification obligation, depending on the originating, transfer and destination points.

One of the challenges with the current process is the duplication in many instances of data collection, validation and transmittal; e.g. passports scrutinized several times and passenger data submitted to multiple agencies at different stages of the process rather than being done as a single event. The technology is available to facilitate such a change but challenges remain in place that precludes this being the norm.

One concept that potentially provides the answer is a single travel token, most likely based on biometrics, which can be used both for industry processes and governmental requirements. The arguments for this scenario focus on two high level concepts. The first is that 'you are who you purport to be', and so the token can be validated and trusted. The second argument is that the token becomes interoperable across borders, when validation and trust is acceptable across multiple states. Global acceptance is required to ensure that such a change is viable for air travel.

Stakeholders involved

There are a number of stakeholders involved in the overall process that need to identify passengers and then access data to make a decision. These are listed below:

- Airline: Ensure the passenger is who they say they are and allow them to drop off their baggage, permit them airside (check-in), access lounges, and board the aircraft.

- Aviation security: Digital and physical security-screen the passenger before they are permitted airside.

- Immigration: Identify the passenger and then assess their immigration status, both on exit and entry into a country.

- Customs: Assess whether a passenger is taking contraband into or out of the country.

- Airports: Provide infrastructure and services to allow governments, airlines and passengers to complete processes.

There are three elements of the journey:

Deciding to travel

With the transformation of the shopping experience already begun, the customer is able to decide on the options that best meet their needs, and to see and compare airline products. They will be able to generate a customer order that lists all of their travel-related needs in the same way online retailing delivers this today. Proceeding to the purchase of travel, the customer is provided with additional information and tools to manage all related regulatory requirements (e.g. visa, health, etc.)

Getting ready to fly and ready to arrive

At any time from deciding to travel to getting ready to fly, the customer will be informed of any changes to their journey. The customer could then receive a notification that they are "ready to fly and ready to arrive". The ready to arrive concept is based on known passenger information being validated in advance by the respective governments pertaining to the journey. All that remains for the customer is final validation using the single travel token at the point of departure. The passenger could also prepare their baggage to facilitate baggage drop at the airport (e.g. home printed bag tag).

Departure/arrival

Having arrived at the airport the customer needs to validate their identity based on the information already provided and so close the loop. For example, those with checked bags can be validated at bag drop; those without bags can be validated automatically before entering airside which will comprise three parts: airline conformance, security risk assessment and border control clearance for the entire journey. Through a mechanism of shared data this could facilitate one stop security and one stop border control at a global level. This would ultimately limit the steps and facilitate the boarding process.

The arrival process will also be simplified and hassle-free based on the customer's identity which is already known and verified. This will avoid queues and significantly improve customer experience, while at the same time providing governments with a more secure process.

Next steps and critical success factors

Some significant steps have been taken by the aviation industry in 2015 to make use of available technology and digital touch points to make the passenger journey more seamless. The deployment of the Aruba's 'Happy Flow' program illustrates a collaborative approach introducing a new generation passenger process. 'Happy Flow' is based on facial recognition involving the governments of Aruba and the Netherlands, Schiphol Group, KLM and Aruba Airport Authority. In addition, Singapore's Changi Airport Group (CAG) has announced that the new Terminal 4, scheduled to open in 2017, will make widespread use of facial recognition technology as part of the implementation of its Fast and Seamless Travel (FAST) program.

IATA is encouraging and supporting more trials and implementations and provides the infrastructure for all industry stakeholders to join forces in defining the transformed passenger experience of the future. Collaboration between airlines, airports, governments and technology providers is critical to success.

IATA will work with an industry task force of airlines, airports, governments and technology providers to work on the seamless end-to-end passenger experience and is inviting all interested parties to join the group.

Passenger process optimization at airports

A bit of background

In the 1970's when airlines started computerized Check-in replacing the manual processes each airline was putting their equipment on each desk that they used, connected via a dedicated communication line back to their data center. As desks at various times of the day were used by different airlines this became unmanageable. Specific industry suppliers came up with the answer, Common Use Terminal Equipment (CUTE). The concept was simple. It created a way for airlines to share the physical and logical infrastructure. This model worked well and is still pre-dominantly in use. The problem with the CUTE solutions however, was that each airline had to have an emulation program for each supplier which resulted in significant operational costs of similar systems and difficulty to open up the market to new competition. Back in 2003, the industry decided to replace the CUTE Recommended Practice by a single technical standard called CUPPS (Common Use Passenger Processing Systems) that all common-use technology providers could support. Now airlines can support a single standard and use it at any airport where a CUPPS standard environment is deployed.

Trends and needs

Passenger processes at airports are changing fast. Customers have high expectations in terms of their airport journey now that they are benefiting from a new wave of innovation with the use of mobile devices, applications and increased access to Wi-Fi and cellular networks.

Airlines would like to differentiate their service offerings and make use of the fast moving technologies to enhance customer experience and to take care of specific individual needs. They would also like to be able to set-up new stations much faster or operate one off flights if needed in addition to having higher passenger service levels.

Airports need to maximize their investments in terminal facilities and avoid unnecessary capital expenditure. In addition, airports would like to ensure that the use of airport space is effective and efficient as well as simple and intuitive for passengers.

Increasingly, passenger process requirements supported through biometric enabled identity management (coming soon), will be done automatically for or by the customer - away from the traditional check-in touch point or even the airport.

Next steps

Given the recent development in technology, the IATA StB Think Tank recommends that the current airport systems and infrastructure be revisited. A stream of work should focus specifically on addressing what could be done in order to make it easier for all stakeholders including customers, airlines and airports. It would also set the stage for airports to completely remodel their terminal designs, which ultimately would lead to a much more pleasant customer experience. Enabling every airline to interact with their passengers in the manner that they choose, independent from fixed airport infrastructure.

One Identity

Identity is possibly the last great obstacle in finalizing an end-to-end airport experience that is safe, hassle-free and convenient for the passenger. Having an individual's verified identity will enable their journey through the airport to be seamless and fast. At the same time, it allows the industry to remove complexity and costly infrastructure from airports. Existing infrastructure will then be able to handle greater passenger volumes, avoiding or at least deferring capital infrastructure projects.

The problem

Safety and security remains the number one priority and responsibility for all stakeholders within aviation. However, the approach taken to achieve this is divided, with each stakeholder taking steps to ensure their obligations are met with little or no coordination between parties. This results in a frustrating and repetitive process for the passenger. Improving collaboration could also achieve a higher level of security.

Proposed approach

Other industries and public services have shown that a federated approach to verification can break down silos and barriers to trust, improving customer service, without creating issues around data protection.

Much of the verification process can occur prior to travel. The physical checks to assure an individual's identity on the day of travel would remain.

Benefits

The passenger can have their data verified before they travel in a secure way that protects their personal information. While the physical checks will still occur on the day, they will be focused on assuring the traveler is who they say they are, rather than re-gathering previously provided data.

- Verifying data beforehand builds greater levels of trust across those stakeholders that require data for the passenger to travel.

- Multiple data sets that can be verified and crosschecked lead to a higher level of confidence in an individual's identity.

- Costly infrastructure can be minimized and terminal space can be released. With long-term passenger growth confidently predicted, from an efficiency perspective today's terminals would be capable of managing greater passenger volumes without the need for new or extended facilities.

Vision

Prior to travel the customer submits all relevant information about themselves, including identity and itinerary data, to the relevant stakeholders (airlines and government agencies). In return, the stakeholders validate and subsequently authorize the data. The customer then receives assurance that their travel plans are all in order and that they are ready to fly.

When the customer arrives at the airport, it is necessary to ensure they are who they say they are. This creates the bond between the physical person and the authorized data. It also provides the necessary identity assurance that enables a seamless airport experience for the passenger.

Once accomplished, these initiatives provide the infrastructure for our industry to deliver streamlined and seamless services, with the passenger experience rightfully as the priority.

Related initiatives

Industry data models will be extended to include contact details and verification data about passengers. Separating the data needed for operational contact and identification from the data needed for commercial purposes will create greater trust and willingness for all parties in the value stream to participate.

Next steps

IATA will explore collaboration possibilities with the Open Identity Exchange (OIX) standards body. This will provide a global standard as a starting point.

IATA will create forums to discuss this and other related bodies such as the FIDO alliance (Fast IDentity Online). This will address the lack of interoperability among strong authentication devices. To change the nature of authentication, specifications will be developed that define an open, scalable, and interoperable set of mechanisms that securely authenticate airline/airport hardware infrastructure services.

Conclusion

The StB Think Tank will continue its work and ensure the ideas tabled are properly articulated and incorporated into a sound proposition for possible solutions to be created.

In addition, the ideation process continues and the group will focus on new, disruptive ideas that will challenge existing processes and systems that create pain points for the entire industry.

The StB Think Tank will engage with all stakeholders to ensure that their perspectives are considered in the ideation process. Collaboration is key to develop any potential ideas.

Finally, the Think Tank remains open to any additional ideas and comments from the industry and look forward to the World Passenger Symposium as a platform to further discuss the ideas and thoughts within this White Paper. More specifically, the 2015 WPS will include a StB workshop session, where we will focus on ideation, including the ideas in this document as well as strategic planning. The workshop will also be a great opportunity for stakeholders to suggest potential new ideas or areas of interest to be discussed further during the 2016 StB Think Tank.

Partnering for success

IATA wishes to thank all contributors to this paper.
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