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Executive sumary

Travel retailing technology is currently undergoing the largest transformation in a generation or more. The process is gradual, but unmistakable, and will reimagine the selling and servicing of almost every journey in the years to come.

The development is being driven by two forces: evolving consumer expectations and the development of new standards that facilitate enhanced retail, servicing and payment opportunities.

Take consumer expectations first. In many sectors, shoppers are wowed by instant, intuitive experiences that meet their needs with the minimum of fuss.

Travel has, so far, not kept pace and must now respond.

To do so, new industry standards and technology are required - starting with airlines, whose processes have been in place for decades and are being rethought in wholly new ways. This is happening under the International Air Transport Association's (IATA) Modern Airline Retailing initiative and will be a central focus of the travel industry for the next decade or more.

This initiative will create opportunities and challenges alike for travel sellers of all kinds. As airline processes change, travel sellers will need to adapt how they do business – and now is the time to begin or accelerate preparations.

While the focus of modern airline retailing today is the airline industry itself, the interconnected nature of travel means we will see ripple effects across the whole ecosystem. That's why we are really talking about 'modern travel retailing'. When fully deployed, airlines, travel sellers and other stakeholders across the ecosystem will be able to respond more effectively to traveler expectations, and create truly personalized, end-to-end experiences. The benefits are manifold and include new levels of customer satisfaction, seller differentiation, and, ultimately, business growth.

This report lays out the changes ahead, explores some of the likely impacts and opportunities for travel sellers and looks at ways in which they can grow their business as the landscape evolves.



Part I:

Modernization in technology is accelerating, dawning a new future for travel

The way air travel is sold has remained relatively static over recent years. Reliable standards that helped the industry globalize have 'worked' but have resulted in significant complexity as they are retrofitted to a more digital environment. The airline retail transformation seeks to upgrade both standards and technology so the industry can provide an improved traveler experience and generate increased revenue.

Consumers seek more personalization, transparency and greater control

Online retailers, such as Amazon or Shopify, can today offer sophisticated shopping environments, designed to meet a range of needs quickly and efficiently, while payment processes have been simplified to often allow check-out with a single click.

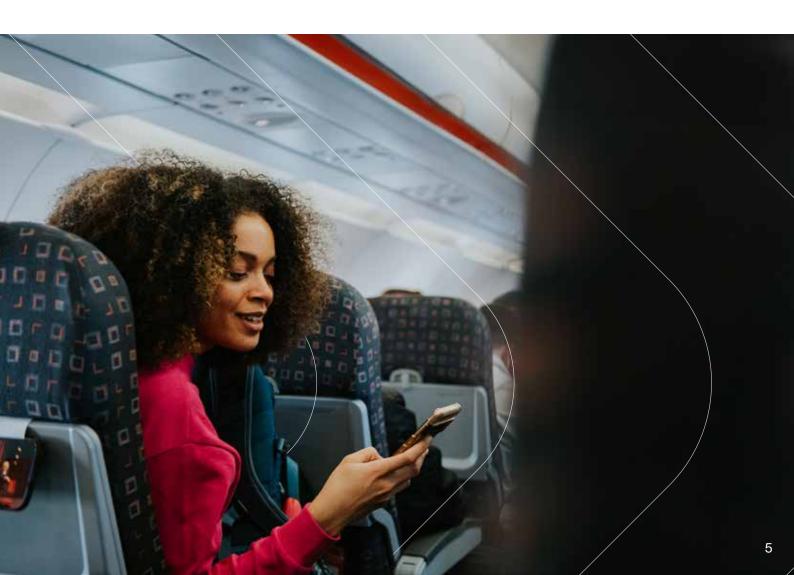
Context is increasingly important. Consumers have grown used to offers based on purchase and browsing histories. An understanding of their location means currency, language and shipping options are considered dynamically. Reminders about abandoned carts or restocked items are now commonplace.

In short, expectations have risen. Enhanced digital shopping experiences are now the norm, and deeper transparency, user-friendly interfaces, self-service options, and efficient customer service are now standard in the online retail industry.

Standards in use for decades are gradually being replaced

Customers now expect to buy airline products and interrelated services with the same convenience they see elsewhere, but, for the most part, struggle to do so. This disconnect can result in poor service, frustrating booking processes, missed retail opportunities and operational inefficiency.

Often, this is because the technology and standards that airlines and the wider industry have relied on, which while robust and effective, were not conceived to support digital retailing. These means of operating often result in siloed data and are reliant on text-based user interfaces with limited flexibility. They are unable to offer the experiences passengers now expect and both airlines and travel sellers aim to provide.



IATA's Modern Airline Retailing: the airline industry's response

In response to these trends IATA has embarked on a process of modernization under the banner of Modern Airline Retailing (MAR).

The transformation to Modern Airline Retailing aims to go beyond the searching, booking, paying and enjoying of a flight by adding associated products and services to complete a full journey. MAR consists of new mechanisms to create 'Offers' and 'Orders' in the airline environment – the new building blocks of the retail experience.

IATA's Modern Airline Retailing initiative consists of many programs, however, there are several that will have a clear effect on travel sellers in the medium- to long-term, covering the following themes: Retailing with Offers, Delivering with Orders and Digital Identities.

IATA's "Modern Airline Retailing"

A strategic program with several key projects

Retailing with O	ffers	Delivering with Orders		Digital Identity
Creation of Dynamic offers	Enhanced distribution with NDC	Improved fulfilment with ONE Order	Settlement with Orders	Better experience with One ID
Enhances sales conversions by optimizing offers based on demand.	A set of technical standards that bring new retailing capabilities to life.	A single integrated customer record to streamline distribution and servicing of airline products and services.	A simple XML message data exchange between partners (travel sellers and airlines) to trigger payment.	A digital identity that enables a more seamless passenger journey and creates greater interoperability among industry parties.

Modern Airline Retailing, supported by the implementation of NDC (New Distribution Capability), ONE Order and related standards, will move airline distribution away from today's industry standards and into the future.

Creation of Dynamic offers

Dynamic Offers is a combination of capabilities, including dynamic pricing and dynamic bundling. It leverages NDC and direct sales shopping workflows, allowing airlines to create tailored prices and offers based on each customer's preferences and behavior.

Enhanced distribution with NDC

Today, flights are displayed in the market based on price, with limited opportunity to showcase products such as cabin classes, lounges or onboard food options in effective ways.

The introduction of NDC (New Distribution Capability) technology enables air products to be retailed differently. This XML-based data transmission standard for the distribution of air content allows airlines to showcase their current products more effectively by illustrating value more concretely, as well as distribute additional fares and/or services.

The NDC data communication standard is a first step that enables travel sellers to interact with airlines to shop, order, pay and service products and services using "Offer and Order" standards.

However, NDC is not a goal on its own. It's just one step in the broader industry transformation to modernize travel retailing and achieve true customer centricity.

Improved fulfilment with ONE Order

ONE Order is about creating a single integrated customer record to streamline distribution, delivery and accounting processes related to airline products and services.

An Order is a single record of the traveler's entitlements during the trip, which reduces data duplication and provides a single source of information for the airline, its supplier partners and travel sellers. With this single Order, airlines can streamline processes, from reservation management to financial processes and delivery of the services during the trip.

New settlement solution with Orders

The current financial and transaction reconciliation processes lay a heavy burden on the industry, from cross-border transactions that lead to currency conversion issues, delayed transactions, and additional fees to differing regulatory and legal frameworks that make compliance difficult to navigate.

To curtail these challenges, IATA plans to introduce Settlement with Orders (SwO), an XML message data exchange between partners that will simplify the money collection process. It will be based on Orders and is expected to remove the complexity of the ticket-based processes for settlement, seamlessly integrating between distribution orders and finance systems.

Strengthened data ownership and privacy with One ID

Today, travelers typically must share some form of identity - on paper or on a device - at many stages of their journey: from logging in to a travel website, to check-in, airport security, boarding and at the hotel reception to name a few. This is not only cumbersome but can also cause delays and information leaks at any given point.

IATA is working towards introducing a digital identity solution that covers all processes and stakeholders in a traveler's journey. The vision is to deliver an end-to-end passenger experience that is contactless, secure, seamless and efficient.

As part of the One ID initiative, IATA suggests using a decentralized digital identity which enables travelers to fully own and control their identity information. By having a digital identity, travelers will be able to share specific information with a specific party when it's relevant to them, depending on which step of the traveler's journey they are providing a specific service for.



Part II:

Modern Airline Retailing – expected changes and the opportunities for travel sellers

While at first glance it may appear the benefits of Modern Airline Retailing accrue only to airlines, we expect several powerful new capabilities to also benefit travel sellers. As travel sellers adapt to new retailing approaches the focus should be maximizing these new opportunities.

1. From the PNR to ONE Order to a.... Universal Trip Storage repository?

One of the most visible changes in the transition to Modern Airline Retailing will be the gradual move away from the Passenger Name Record (PNR) as we know it.

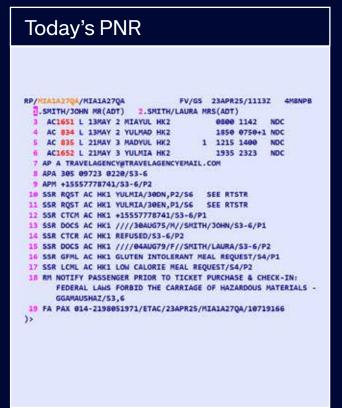
Today, a single trip's information is duplicated across multiple documents. There is at least one PNR on the airline side - multiple in the case of interlining or code sharing - one PNR on the travel seller's side, at least one ticket and multiple Electronic Miscellaneous Documents (EMDs) to cover each ancillary service. This duplication makes it hard to share accurate information which can cause both operational and commercial problems.

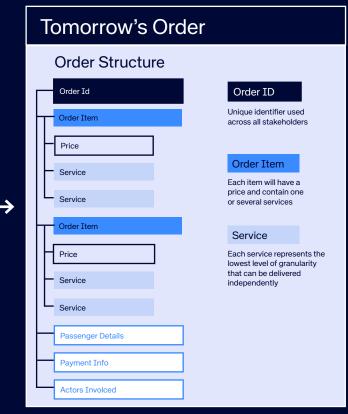
For example, today it is still the case that the passenger's name can be corrected in a PNR but for the correction not to filter through to the actual ticket. This can sometimes result in the passenger being denied boarding at the gate. General synchronization problems between documents are still common and even when they are overcome, it requires costly reconciliation techniques.

With the introduction of ONE Order, airlines intend to simplify with a single record (the Order) stored on the airline's system. The ambition is to replace this multiplicity of records with a single source of truth that contains complete information about the traveler's purchases and entitlements.

Each travel company involved in delivering the trip will only be shown the relevant elements needed to fulfil their particular task. For example, a car rental company may need to know the traveler's estimated time of arrival and details regarding their car rental. However, the car company doesn't need to know which hotel the traveler has booked.

Creating an all-purpose "Order"







Does ONE Order meet the needs of the wider travel industry?

While a single Order stored in the airline's Order Management System will help to reduce data silos and deliver an improved service to travelers, there are two significant issues that need to be considered:

• A missed opportunity for further industry standardization:

The ONE Order standard allows each airline to determine how to structure its own Orders. This means travel sellers and suppliers involved in delivering airline orders must work with varying formats from different airlines.

Wider non-air services:

While a single airline Order can be updated with non-air services when retailed through the airline's direct channels, what about third-party distribution? Travel sellers also need to be able to add non-air elements (such as hotel, cars, etc.) to a record covering the entire trip.

It's due to these two primary considerations that we believe travel sellers will continue to require their own records. Travel sellers need their own version of an order that allows them to extend their offer beyond air, to ensure efficiency and as a repository where private information can be housed, for example, information that isn't shared with an airline.

We therefore foresee the PNR evolving to become a 'Travel Seller Order' or a 'Universal Trip Storage repository' in the future. It is also clear that the transition to offers and orders will take many years, with different airlines moving at different speeds. Therefore, we expect PNRs and Orders will co-exist for quite some time.

2. From complexity to simple language and simple flows

The sale of airline tickets today involves plenty of very complex flows and vocabulary that does not exist in any other retail industry. Currently these **industry-specific actions and nomenclature are being replaced by simpler, retail-oriented ones.**

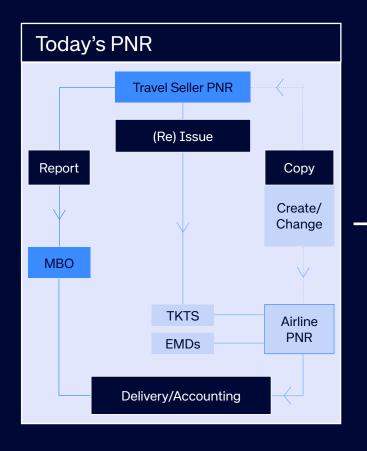
Fare rules, Reservation Booking Designators (RBDs) and Special Services Request (SSR) codes are becoming "terms and conditions", and static micro-actions for the travel sellers such as availability display, Fare Quote display (FQQ), Prices in Itinerary (FXX) are giving way to a more straightforward Shop-Order-Pay process.

Modern Airline Retailing is built for the digital era, introducing retailing techniques in the travel sellers' channels that are already available to many online businesses. **Travel sellers can use simple flows, with less training, freeing them to focus on their real**

value as trusted travel advisors. Travel sellers can finally put the traveler at the center of everything they do – with less time spent mastering complexity and more invested in being a true travel consultant.

Better synchronization between systems is expected and will see agents enjoy seamless integration between external systems, including mid- and back-offices, while automated information gathering, including real-time cash flow forecasting, will improve agent productivity.

Simplified distribution with ONE Order







3. From static shopping frameworks to new retailing opportunities

Modern Airline Retailing means travel sellers can access new and wider ranging content, ultimately helping them generate more revenue.

We anticipate new types of content will be introduced (i.e. interline with LCCs). Imagine if a travel seller was able to combine flights from your favorite full-service airline with low-cost carrier flights in a single order. This new capability won't only improve choice for travelers, it will also help travel sellers meet the needs of more travelers. Presenting such offers with dynamic and personalized bundles based on the needs of a traveler will also help to secure more sales.

Modern Airline Retailing will also allow multiple travelers to have different itineraries, all housed in the same Order. Today, passengers in the same PNR are expected to share identical itineraries, with travel sellers having limited flexibility. Separate bookings are usually required if itineraries need to vary. With the introduction of ONE Order, travel sellers will have the tools to book personalized and varied services – including different flights, baggage options, or seats – for multiple travelers within the same Order. All without juggling multiple PNRs. It's a game changer for groups. Imagine a wedding where multiple family members

are flying to the venue from different parts of the world. Travel Sellers will soon be able to accommodate the entire family in a single order.

Travel sellers will be able to **offer one price for multiple passengers.** Instead of pricing
each individual ticket and service separately,
as is common today, travel sellers will be able
to offer a combined price for the entire group,
with travelers within the group still having
individualized itineraries or services. This
capability will allow travel sellers to more easily
target, market and serve groups.

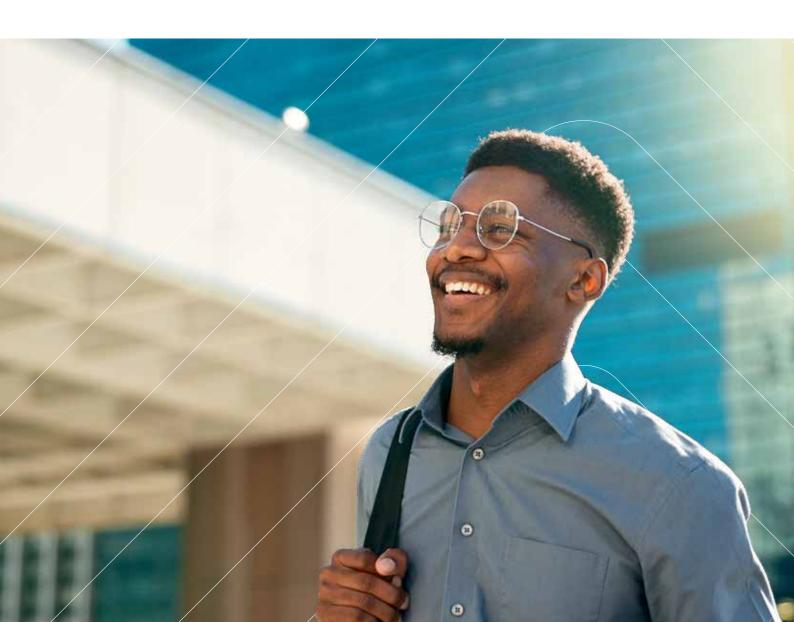
4. From an antiquated traveler experience to enhanced customer journeys and servicing

With access to a wider range of content, more ancillaries and optional services (i.e. cabin bags, lounge access, onboard meals and speedy boarding) sellers will have the opportunity to offer greater personalization and contextualization to travelers. This means sellers can build unique, end-to-end trips, specific to the needs of each traveler in ways proven successful in other industries, such as online retail. Being able to differentiate in this way will help sellers capture a greater share of the value from each booking, grow customer loyalty and reduce acquisition costs.

Internally, Modern Airline Retailing will offer travel sellers an opportunity to optimize operations and boost performance by integrating full omni-channel online and self-service opportunities. Travelers will be able to easily select options that meet their needs, freeing travel sellers to focus on commercial activities.

When a travel seller is needed, they will have better end-to-end visibility of a traveler's entire journey, which will facilitate **faster and better disruption management.**

The introduction of One ID will benefit travelers as they won't have to re-enter their identity for different services or go through frequent authentication requests. For travel sellers, it promises to reduce investment in services and software that safeguard against data leaks and comply with privacy regulations.





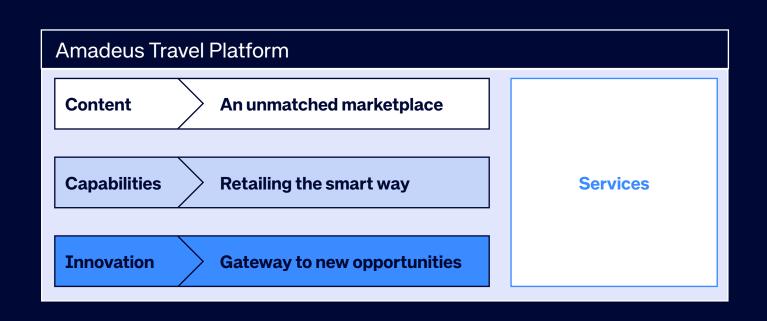
Part III:

From airline retailing to travel retailing, what Amadeus is doing to support travel sellers

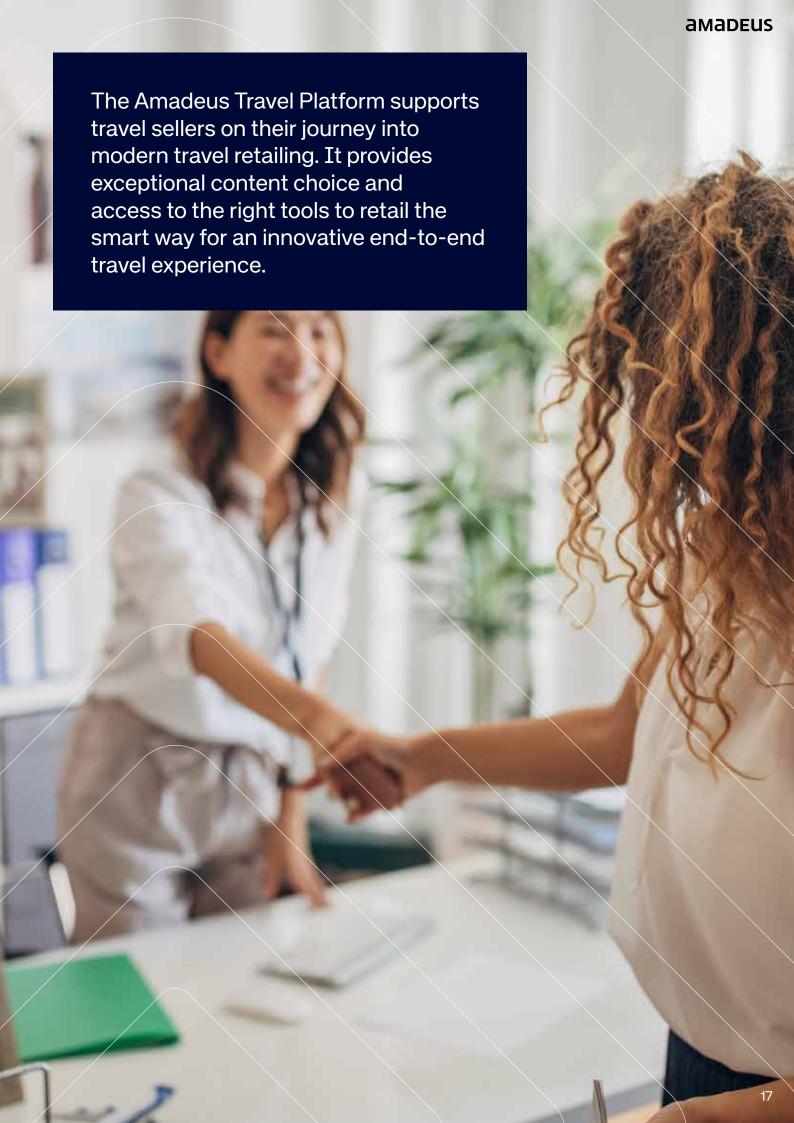
While IATA's Modern Airline Retailing program is moving the airline industry forward and contributing to greater traveler-centricity, travel is about more than aviation. By adapting to, and building on, the changes taking place in the airline industry we have an opportunity to extend the benefits. We believe it is more appropriate to call this 'Modern Travel Retailing' and Amadeus is taking several steps to make it happen.

Transforming the retailing tech stack

Amadeus is transforming current systems, business practices and workflows into systems and processes ready for Modern Travel Retailing. The <u>Amadeus Travel Platform</u> acts as a backbone, facilitating the changes travel sellers will need to make. As we complete our move to the cloud, we are well positioned to deliver a combination of modular technology that allows our customers and partners to assemble the tech elements they need, connect to different content sources and distribute and/or retail any travel-related content within the ecosystem.



Our tech stack provides multi-content and multi-source capabilities that empower travel sellers to build an entirely new retailing environment based on their business strategy. Our solutions cover the end-to-end flow of travel, from inspiration and planning to post-booking servicing, all of which are supported by the data and analytics travel sellers need to ensure their business operates more efficiently and profitably.



Bringing the benefits of NDC to travel sellers

Right from the start, we made sure it was easy for travel agents to search and compare content from any source, such as EDIFACT, NDC and other APIs, all on one merged display. By mitigating the inconvenience in how content is provided, we have **improved the booking flow** by:

- Normalizing the booking flow so that travel sellers can book and service different airlines' content via all different sources in the same way,
- Adding new filtering and sorting capabilities, and additional search options for improved results,
- Enhancing our graphical interfaces with a B2C approach to ease travel consultants' transition into modern retailing.

The ability to cancel, exchange, and rebook flights has always been important for our travel seller customers. We continue to work with our airline and travel seller partners to create processes that make it possible for NDC to be fully adopted by all travel sellers and to **simplify servicing and exchange**.

We are making sure that existing tools and processes can be used also with NDC-sourced content by **integrating NDC in travel seller ecosystems.**

For example, travel sellers can book content via NDC while benefiting from their existing customer profiles, still get PNRs with a confirmed segment, receive similar mid- and back-office messaging, and capitalize on interoperability between different Amadeus solutions such as Amadeus Selling Platform Connect and Cytric by Amadeus.

Why content normalization is key to scaling NDC

The fragmented content landscape has varied interpretations of the NDC schema due to:

Growing number of NDC enabled airlines

On different versions of the IATA standard

Multiple airline IT providers

Amadeus manages the complexity to normalize data and flows

Data normalization

- · Clean up
- Harmonize
- · Compensate missing data

Flow normalization

- Orchestrate
- · Guided flows



NDC content can be seamlessly searched, booked and serviced in the Amadeus Travel Platform

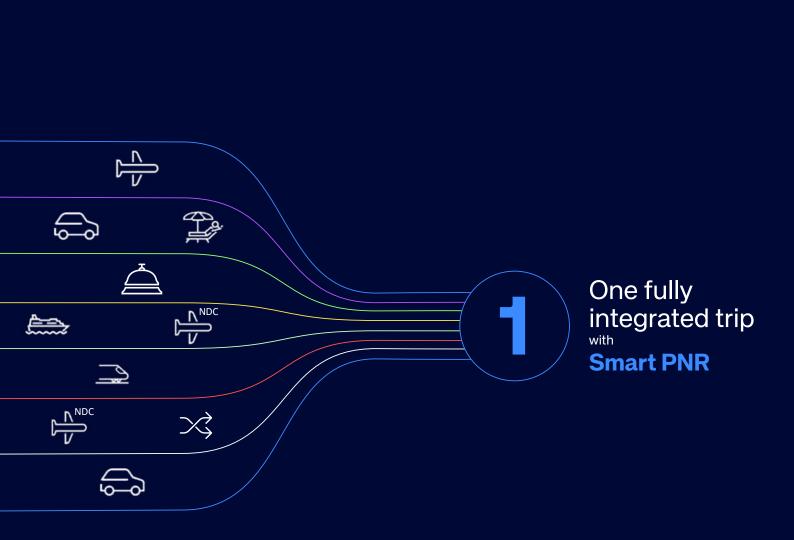
Readying travel sellers to embrace ONE order

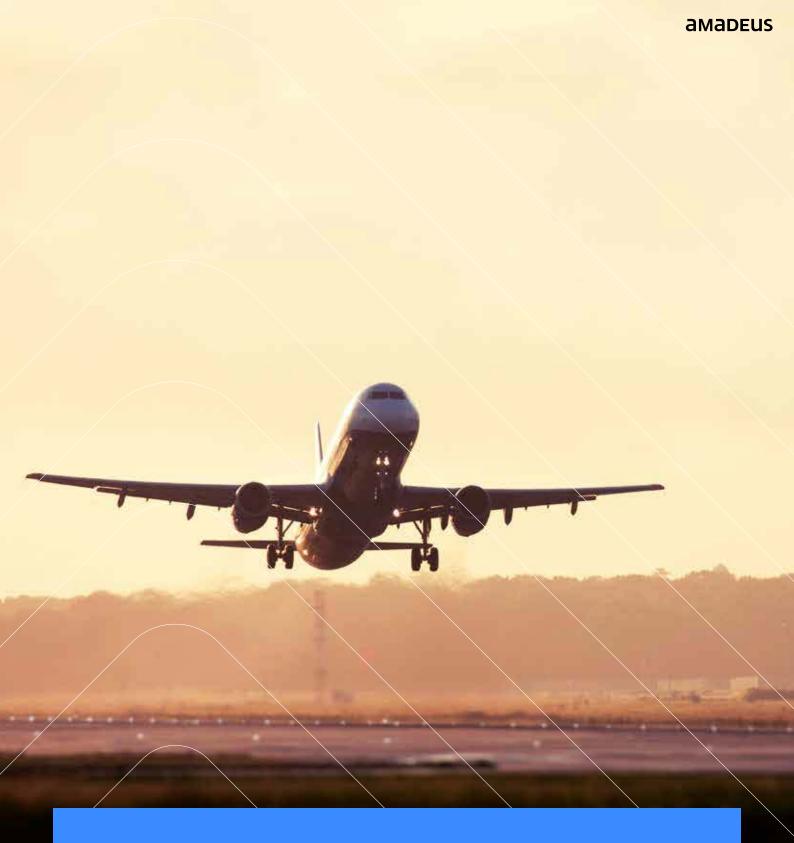
In line with the visionary goal of transforming the PNR, electronic ticketing, and EMDs associated with each passenger into a single "ONE Order," Amadeus is actively developing the necessary tools and applications to realize this ambition, leveraging the ONE Order foundations already built to support NDC.

This year, we will continue deploying Smart PNR, an evolution of the PNR, enhanced with new capabilities, that will facilitate retailing efficiency for travel sellers.

Smart PNR will allow travel sellers to:

- Mix all content types, such as flights, hotels, cars, rail and cruise, in one unique PNR.
- Manage any type of content, including EDIFACT, NDC or if it's sourced from any other API.
- Deliver more efficient booking and post-booking servicing on non-homogenous itineraries.





Amadeus first started working with airlines to prepare for this "ONE Order world" back in 2017.

Since then, we have been exploring what opportunities lie for travel sellers and buyers as we start moving to an Order-based world and in 2023 introduced Amadeus Nevio, a next generation retailing technology that provides airlines with end-to-end solutions. Our unique

position at the forefront of the airline retailing transformation, and as one of world's largest distribution networks, allows us to anticipate changes that will impact travel sellers and deliver the best solutions that empower them on their modern retailing journey.



Part IV: Travel seller retailing transformation

From manually filled-in paper tickets to computer printed passes to e-tickets to paperless boarding - transformation is business as usual in the travel industry. The transformation currently taking place in the travel industry can be considered the largest in a generation, and naturally it will take all players time to adjust, evolve and fully adapt.

Modern airline retailing is a multi-year, multi-stage process that won't happen overnight. It means a gradual transition to Modern Travel Retailing for travel sellers. As airlines move more and more content and functionality to NDC, now is the time for travel sellers to begin or accelerate preparations and own their own transformation.

Growth and change take time

IATA has set an aspirational goal of creating a more agile, more efficient industry without the constraints of legacy standards by 2030.

Reaching this goal would require every airline that wishes to transform fully running on offer and order capabilities. The journey to modern retailing began with the introduction of NDC back in 2012. Even though it's taken over a decade to begin to see any substantial changes to the way air travel is sold, the past two years have seen a strong acceleration in the use of NDC, and the pace is expected to continue as more airlines and sellers embrace it.

Even 10 years into the NDC implementation, it is not yet perfect. Adoption varies widely across the industry. Some airlines are fully leveraging NDC, while others are at different stages of their implementation. This results in inconsistencies in how NDC content and capabilities are made available, adding complexity for travel sellers and corporate buyers. Despite these hurdles, momentum is growing, and the benefits of NDC are becoming clear. The traditional ways of doing things are gradually disappearing from travel seller workstreams. The new technology is helping travel sellers improve their value proposition and differentiate from competitors who are not embracing NDC.

Modern travel retailing involves many players in the value chain. Each may have varying degrees of technical development and business priorities, but they all have one common purpose: creating an exceptional travel experience for their travelers.

What actions can travel sellers take?

1. Familiarize themselves with NDC:

NDC is the biggest change to travel distribution in many years, and it's happening at scale right now. Travel sellers should familiarize their organization with NDC (or continue to do so if they have already started on the NDC journey). It's important not to get left behind and to understand how NDC will take travel experiences to the next level. There is a wealth of information on offer, both from IATA and Amadeus.

2. Adopt NDC:

Once familiar with NDC, travel sellers have an opportunity to rethink existing systems in pursuit of simplicity – driving both efficiency and revenue. They can do this by:

- Using an existing front office booking tool that is easy to onboard and takes care of all the complexity to source and normalize NDC content such as <u>Amadeus Selling</u> <u>Platform Connect</u>, or
- By making modifications within their own ecosystems and developing new tools with the Amadeus Travel API.

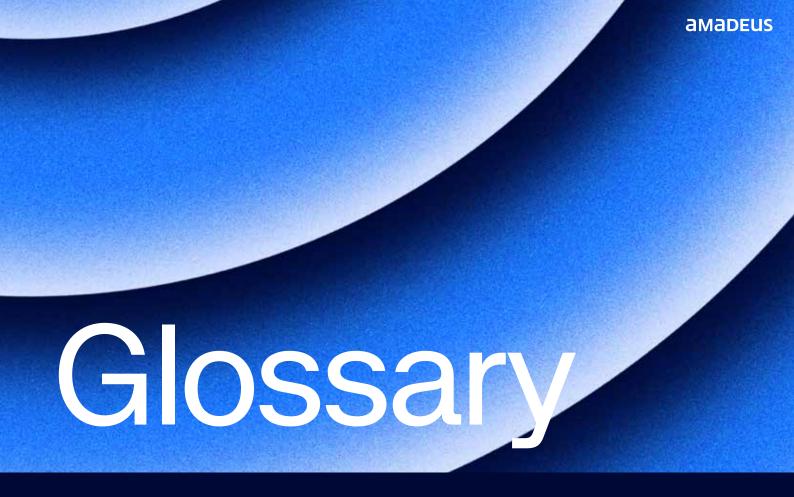
3. Choose the right tech partner:

The path to a successful implementation of modern retailing requires industry players to work together to take advantage of the opportunity. It will require travel sellers to choose the right partners that will drive their technologies forward and provide positive business outcomes. Travel sellers need an expert technology partner that can handle today's complexities at scale, create the right transition plan and knows how to accommodate their current systems, business practices and workflows within future systems and processes.

At Amadeus, we are 100% committed to enabling the full potential that modern travel retailing can deliver to all. We have the necessary resources available and 35+ years of travel industry IT expertise which means we can support travel sellers on their NDC journey and accelerate the pace of digital innovation in travel retail.

In conclusion, modern travel retailing is a collective responsibility that involves multiple stakeholders and diverse strategies. Ensuring successful global adoption of NDC and modern travel retailing will require a significant ecosystem effort. By working together, the industry can overcome existing challenges and pave the way for a more seamless, efficient, and customercentric travel experience.





EDIFACT: Electronic Data Interchange for Administration, Commerce and

Transport - A set of rules defined by the UN for inter-company

electronic data exchange.

EMD: Electronic Miscellaneous Documents - An official IATA standard

document to facilitate fulfillment of optional/ancillaries services.

International Air Transport Association - Trade association for the

world's airlines.

LCC: Low-cost carrier

MAR: Modern Airline Retailing - Transformation of airline IT infrastructure

and processes enabling airlines to fully retail their products.

NDC: New Distribution Capacity - A set of technical standards that bring

new retailing capabilities to life.

PNR: Passenger Name Record – A digital file that contains information

about a passenger or group of passengers traveling together and

their booking details.

SwO: Settlement with Orders - An XML message data exchange between

partners to trigger payment.

XML: Extensible Markup Language – A type of programming language.

