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Travel industry overview and global trends
The overall contribution of travel and tourism to the world economy exceeded USD 7.6 trillion in 2016, accounting for more than 10% of global GDP. To put that into context, if the industry were a state, only the US and China would have larger economies. This level of economic activity supports 291 million jobs – almost 1 in 10 jobs globally.

The travel industry continues to grow faster than global GDP. Based on constant 2016 prices and exchange rates, in the next decade the value of the overall travel industry is expected to grow at an annual compound rate of 3.9%, reaching USD 11.5 trillion, representing more than 11% of global GDP and supporting more than 380 million jobs by 2027. Remarkably, in a context of increasing concern over unemployment and job stability, the travel industry is likely to drive significant job creation.

In direct expenditure terms, leisure and domestic travel lead, representing 76.8% and 71.8% respectively in 2016. Nevertheless, with around 1.3 billion international travelers contributing over USD 1.4 trillion to global exports, travel and tourism clearly play a vital role in international trade, and this is likely to gain further importance at least over the next decade. Spending by international travelers is projected to rise at a slightly higher rate over the next decade than their domestic counterparts (4.3% versus 3.9% annually).

The number of travelers is expected to nearly double over the next 20 years, from 4 to 7.8 billion, representing a compound annual growth rate of 3.6%, as such outpacing the projected global GDP growth rate over that period of 3.2%.

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2 Source: Own calculations based on World Bank’s World Development Indicators and on WTTC’s Travel & Tourism Economic Impact 2016.
3 Source: WTTC, ibid.
4 Source: WTTC, ibid.
5 Source: WTTC, ibid.
3.2 Political and economic trends

Growth in Asia and Africa

Growth in the travel industry is particularly strong in Asia-Pacific and the Middle East and Africa, with expected annual average growth rates in these regions in the period up to 2036 of 4.6%, 5% and 5.9%, respectively.8

However, due to the absolute size of the industry in Asia-Pacific, this region will be the major catalyst of growth. This is driven by, among other factors, China’s massive travel investments, both domestic (e.g. in new airports and high-speed trains in China) and foreign (e.g. airports in Europe), and via mergers and acquisitions, as well as the huge growth of domestic and outbound travel in India. Within air travel, Asia-Pacific will contribute to more than half the new air travel passengers expected to be added between 2017 and 2036.9

Cybersecurity

Cybersecurity is increasingly important and businesses are to spend close to USD 90 billion in 2017 on cybersecurity.10 Travel is no exception, and Amadeus is therefore engaging actively at industry level through its membership in A-ISAC and collaboration with other international organizations to improve the industry’s overall cybersecurity. At the same time, Amadeus is investing significant amounts to protect our customers’ operational stability, data and related assets.

Geopolitics and security

Geopolitical and security events in certain parts of the world are affecting travel. Threats of terrorism and political tensions are leading to restrictions on travel, increased security and border control, and more administrative burdens for the traveler, all impacting travel negatively.

However, overall growth in travel remains resilient. Geopolitical and security issues tend to affect specific countries or regions and generally last only for a short period of time. At the same time, traveling in the broader sense has become much easier thanks to improved travel-related infrastructure, connectivity and more affordable prices, among other factors.

3.3 Social trends

The connected traveler

The increasing use of smartphones, fueled by the expansion of 3G and 4G mobile internet, has turned trip organization into a live activity – with search and bookings able to be made and changed on the move. As importantly, the use of the smartphone implies uninterrupted connectivity. This offers significant opportunities to provide timely information in case of disruption, for example a gate change at an airport.

Personalization

Travel industry is investing heavily to offer highly personalized and contextual offers for the traveler’s next flight, hotel room or car rental.

Recent innovations in front-end technologies enable machine learning to fine-tune search results based on the traveler’s explicit and implicit preferences. These range from algorithms that are constantly refining how options are ranked on the traveler’s favorite travel website, to apps on their cell phone that consider past trips, expressed sentiment (thumbs-up, likes/dislikes, reviews) and volunteered information like frequent traveler numbers.

When developing personalized offers, providers have to take into account the conflict between stricter privacy laws and data-backed personalization (see below under “Legal trends”).

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8 IATA, ibid.
9 IATA, ibid.
Sharing economy

The evolution of digitalization and the online ecosystem has led to a substantial increase in the sharing economy; it is expected to reach USD 40.2 billion by 2022, up from USD 18.6 billion in 2017.11

Within travel, the most mature sharing economy segment is accommodation for leisure travelers, with providers in the industry attracting significant investment and achieving massive valuations. At the same time, online travel agencies and hotel groups are adding home rental offerings to their services. Moreover, the sharing economy model is maturing, and has expanded to cover other modes of travel, for example car sharing, as well as increasingly targeting the business travel segment.

3.4 Regulatory framework trends

Data protection and privacy

Data protection and privacy continue to be high on the agenda of regulators everywhere, and regulatory initiatives have been taken, or are currently in progress, to safeguard the interests of governments, industries and citizens in many jurisdictions. The requirement for airlines to provide advance passenger information has been in place for quite some time in many countries to enhance border control, and the EU PNR Directive will come into force during 2018. The United Nations Security Council has mandated the International Civil Aviation Organization (ICAO), a United Nations body, to strengthen aviation security. Measures taken by ICAO include assisting its member states to adopt comprehensive Advance Passenger Information systems.

The General Data Protection Regulation in the European Union, enforceable as of May 2018, will protect all EU citizens’ data privacy. At the same time, the EU–US and Swiss–US Privacy Shield Frameworks provide companies on both sides of the Atlantic with a mechanism to comply with data protection requirements when transferring personal data from the EU and Switzerland to the US. These regulatory requirements will impact how companies process and store personal data, whether for customers, employees or other groups. As a service provider to the travel industry, Amadeus is working actively, also at industry level, to find effective solutions and standards that ensure that regulatory requirements are met efficiently.

Fair competition, transparency and neutrality for consumers

Legislators in many jurisdictions have in 2017 taken enforcement action against industry players that are seen to abuse their dominant position to the detriment of the consumer or the market in which they operate, or otherwise violate the principles of fair competition. The most prominent case is the Google judgment by the European Commission.12 Reacting to the new business practices by some airlines in the EU, the EU competition authorities have also conducted a light sector inquiry among the largest airlines, travel agents and distribution providers in order to understand and assess the current state of competition in the marketing and sales of air travel in the EU. In the US, the Trump administration has stopped regulatory processes that were initiated under Obama to strengthen transparency and consumer rights in a highly consolidated airline market. Generally, authorities seem to struggle with effectively enforcing legislation passed years ago in a marketplace where business practices have evolved and new players have entered. This lack of clarity provides an uneven playing field for competitors in the same market, in which some are regulated and others are not, or where some comply and others may seemingly decide not to,


Against this backdrop, Amadeus welcomes the initiative by the European Commission to initiate a major review of the regulatory framework for the EU aviation market, which is scheduled to be concluded in 2019. Among the most important initiatives is the review of the EU CRS Code of Conduct, which historically was a highly effective instrument in making the EU aviation market the most competitive and consumer-friendly in the world. Given the obvious shortcomings of the regulation, the aim of the review is to update and future-proof it to safeguard fair competition between air carriers and to ensure that accurate, neutral and transparent information is given to consumers and travel buyers to allow them to effectively compare and choose travel options.

Amadeus is working closely with both the European Commission and other industry and government stakeholders to ensure that the new regulation is well adapted to existing and future market conditions. This means that the revised code must not only improve transparency and neutrality requirements on those currently regulated by the existing code, but it must also establish a wider level playing field for all market players, e.g. making sure that flight metasearch companies like Google are regulated to provide neutral and transparent information to consumers, which is not the case today.

The next few years will see the establishment of new or revised regulations that will be in place for a long time to come, and they must find a better compromise between naturally conflicting interests than what is in place today. Amadeus will continue to engage broadly with all stakeholder groups, contributing to a constructive and balanced dialogue through which new regulations will be effective and fair as possible.

Sustainability

Governments and international institutions around the world are increasingly passing new regulation in order to meet the requirements for long-term sustainability. The Paris Agreement on climate change is a noticeable example, particularly for the large consensus reached. As of February 2018, 195 countries have signed the Agreement.

We have also witnessed a trend of increasing and improving sustainability reporting from corporations. There are at least three elements that foster this rise in sustainability reporting: first, increasing scrutiny and more stringent legislation – for example Directive 2012/27/EU on energy efficiency in Europe requires companies above a certain threshold to perform energy audits and report on them. Second, the general public is becoming more demanding and ready to factor in a sustainability component in their purchasing decisions. Finally, corporations realize that long-term growth requires engagement on sustainability matters in a broad sense, and are increasingly including sustainability in their strategic plans.

From a legal perspective we expect in the future a more demanding sustainability-related regulation, both in terms of scope and enforcement. At the moment, there are fundamental differences between regions in relation to the speed of these changes, but globalization will probably force convergence in the mid-term. Indeed, the 17 Sustainable Development Goals (SDGs) set by the United Nations General Assembly in September 2015 have become a framework of reference for stakeholders within and beyond the travel industry.

The travel and tourism sector is already challenged by issues like overcrowded destinations, income inequalities or human-induced climate variability, and we expect a more specific and strict legal framework on these and other topics. Being aware of these challenges and the SDG objectives, the United Nations World Tourism Organization celebrated in 2017 the International Year of Sustainable Tourism for Development, an event in which Amadeus actively participated and sponsored.
3.5 Technology trends

Cloud computing

The use of public cloud computing is growing strongly, with the global cloud market expected to increase from USD 220 billion in 2016 up to USD 411 billion in 2020 (17% CAGR). Cloud computing has a number of features that make it particularly relevant to the travel industry. These include better use of infrastructure resources, allowing for economy of scale, flexibility and agility. This in turn permits easy response to peak traffic and getting new services and functionalities quickly to customers, as well as being able to have multiple data centers, ensuring data recovery capability and response time improvement by locating services closer to customers.

Amadeus has responded to this need with Amadeus Cloud Services (ACS), which can be deployed on multiple cloud environments, either on public cloud providers and/or on our private infrastructure. One of the solutions deployed on ACS is our next-generation Central Reservations System for the Hospitality industry. ACS is also available for airlines through Amadeus Airline Cloud Availability BoX.

Application programming interfaces (APIs)

APIs enable developers to easily build applications by connecting to an enterprise’s data and functionalities. The increased use of APIs is due in part to companies gradually moving away from proprietary technology to open platforms. As agile methodologies spread and developers gain autonomy to work at their own pace, by improving how developers get connection to their services an enterprise has the opportunity to jointly find innovation and co-creation opportunities with third parties, while at the same time strengthening the ecosystem that the enterprise is facilitating.

Within the travel industry, developers are a key part of the ecosystem. For them, travel data and services may be the seed of a new disruptive travel offering, and they need to access these quickly and easily. Within the airline industry in particular, the approach is being promoted by IATA with the New Distribution Capability (NDC) program.

The Amadeus for Developers Program has been conceived to improve innovators’ access to our data and functionality, helping them build new applications with open APIs or integrate travel content in their applications. It offers a friendly environment to explore and start building with a new array of APIs. Thanks to the program and simple legal and go-to-market processes, developers can launch apps to the market quicker.

Messaging platforms and chatbots

At the end of 2017, 1.82 billion people worldwide regularly used mobile messaging apps. Chatting via messaging platform has now overtaken other means of communication via the internet, surpassing social networks and SMS/email, and messaging apps are now the most widely and frequently used apps on a smartphone.

Within the messaging platform universe and in the case of interaction between companies and customers, there is a clear trend from chatting with people to chatting with robots (or “chatbots”), with tech giants investing heavily in cognitive services and many start-ups receiving investments from venture capital firms.

Within travel, the use of chatbots is still at an early stage, with travel players making existing services available through chat channels. However, the players in the industry have realized that there is significant potential, both in terms of service cost reduction and more revenues as a new sales channel, and they are starting to invest in intelligent conversational platforms that will be able to meet all the customer’s needs without human intervention.
Digital identity and biometrics

Facilitating user identification while fighting against fraud and identity theft remains a challenge common to many industries, from payments to health care to public services, among others. Initiatives aimed at providing digital identity tightly linked to the user’s physical identity are progressively emerging, while the usage of biometric technology is rapidly expanding and attracting significant interest from the public and private sectors.

The travel industry has recognized that this is a key enabler for a more seamless and personalized processing of the traveler, and for operational efficiency and security improvements all along the journey, and is evaluating the use of these technologies. Multiple trials introducing biometrics within airport passenger processes are going on across the globe. While IATA recently launched the One ID task force in order to create standards in this area, with a focus on airlines and airports, the World Economic Forum favors the emergence of a global, unique digital identity for the broad travel industry, and potentially beyond.

Amadeus is convinced that future-proof Digital Traveler Identity solutions should be universal and permanent, that is to say constantly reusable in any travel process requiring authentication of the traveler for any trip. We are therefore exploring solutions and technologies to provide a trusted digital identity token, while ensuring security and privacy by design. In line with Trust Framework principles promoted by Open Identity Exchange, Amadeus is also collaborating with IATA and various industry representative bodies toward a global approach for Digital Identity in Travel.

Artificial intelligence

There has been impressive progress in the use of Artificial intelligence (AI) in recent years. Within the IT industry there is heavy investment in this area, with a buoyant start-up scene, and with tech giants making significant investment both in-house and in the acquisition of start-ups. AI is a substantial catalyst behind several of the trends described above – for example autonomous vehicles (AVs), personalization and messaging platforms.

There are two main components in making advanced AI systems: the fuel and the engine. The data is the “gas” and machine learning is the “engine.” Machine learning is based on the idea of giving machines access to data and letting them learn for themselves.

Within Amadeus, we are processing and mining the data with the latest big data technologies, and by applying machine learning we leverage AI in a number of areas, including revenue management, fraud detection, recommender systems for travel products (e.g. hotels, flights and ancillary services), and advertising.

Blockchain

Blockchain is the target of significant investment, with more than USD 1.2 billion invested by venture capital funds into blockchain start-ups as of today and with a market expected to reach USD 20 billion by 2024.

This emerging technology holds tremendous promise in terms of changing the way in which we “exchange value” (often financial) digitally between businesses, governments and individuals.

Despite blockchain technology being much discussed, in reality the technology remains in an experimental phase, with various actors investigating potential use cases. We have identified four potential use cases: (1) simplified and more secure passenger identification; (2) improved baggage tracking; (3) more user-friendly loyalty schemes; and (4) simplified payments between travel agencies and airlines.

Our teams have developed live prototypes, and we are cultivating a network of specialist partners to experiment with this new technology, respecting the data security and privacy implications blockchain presents.

Internet of Things and connected devices

The growth potential of the Internet of Things is very significant, with the market forecasted to reach USD 561 billion by 2022, and the number of connected devices, sensors and actuators climbing to 46 billion by 2021.

Within travel, we are only just beginning to scratch the surface in terms of what internet-enabled devices will look like and be able to offer travelers in the future. Amadeus has identified a number of use cases that we are looking at today, including baggage tracking, asset monitoring in airports, predictive maintenance for airlines, and guest room automation in hotels.