

2019

# Global Report

*A business, financial and  
sustainability overview*





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# Amadeus® Global Report

*A business, financial and sustainability overview*

The objective of this Global Report is to provide a comprehensive and transparent view of Amadeus' activities, operations and performance during 2019. We have taken into consideration a broad perspective covering financial and non-financial information and we are providing an overview of the company from an economic, social and environmental outlook.

For a more interactive reading of this report, visit the online version at [amadeus.com/global-report-2019](https://amadeus.com/global-report-2019)



# Message from the Chairman of the Board

Dear friends,

I want to start this letter commenting on a topic that usually comes last. Actually, 2019 has been a pivotal year in the travel industry regarding the focus on sustainability, and particularly on climate change. Acknowledging this significant challenge is a necessary step to finding the right solutions, but where do these solutions lie?

First of all, we can foster the synergies between economic and environmental objectives. Improving the operational efficiency of the travel industry implies reduced use of resources and lower economic costs. Considering current volumes of global travel and growth expectations, improving efficiencies can bring significant benefits. Such initiatives fit in well with the overall frugality trend in travel. The improvements may come from relatively simple measures like using aircraft configurations that reduce weight. More sophisticated actions require cooperation between industry players, for example, progress in the door-to-door travel functionality. I expect that travelers in the future will use technologies that provide full visibility on travel options from origin to destination, facilitating itinerary changes and including different travel providers and means of transportation.

Besides, the long-term sustainability of the travel industry requires technological breakthroughs to reduce dependency on fossil fuels. Electric flights, which only a few years ago were unthinkable, are now part of the plan for short distances. We need to trust in our capacity to find technological solutions that address sustainability challenges. The objective is to detach travel from pollution, so that future generations of travelers will enjoy the same, if not more, freedom to travel.

In this context, Amadeus is well prepared to deliver the right solutions. In 2019 we increased our R&D investment to close to one billion Euros. Indeed, R&D remains as one of the pillars of our company culture. In a time of rapid technological developments, we also work to diversify our business and identify new opportunities. The acquisition of ICM, a global leader in passenger automation and self-service bag drop solutions for airports and airlines, is a good example. ICM delivers solutions that enhance the traveler experience, improve the efficiency of airport operations, reduce costs and make better use of infrastructure.

At the time of closing this report, Amadeus announced the acquisition of the airline network planning software of Optym. Optym helps airlines make three of the most important decisions they face: where to fly, how frequently and with what equipment.

Using sophisticated algorithms and large amounts of data, including factors like the probability of disruptions, Optym helps airlines optimize their operations. It helps to reduce the amount of resources used per passenger carried, including fuel and greenhouse gas emissions.

Staying at the forefront of technological developments that contribute to the sustainability of the travel industry is a necessary element of our long-term success as a company.

At the same time, solid governance practices are fundamental to maintaining our focus, values and priorities. This is particularly relevant for a global company like Amadeus. We continuously develop our governance practices to adapt to the requirements of the markets and communities in which we operate. As part of our continuous improvement measures, we participate in sustainability indices. These indices provide feedback on our performance and help us identify areas for improvement. In 2019 Amadeus remained for the eighth consecutive year in the Dow Jones Sustainability Index.

Our focus on R&D, our talented and diverse workforce, our global reach and diversification strategy, as well as our robust financial performance place Amadeus in a privileged position to continue to deliver value to our stakeholders and the travel industry.

In this report you will find comprehensive information about our business and the most important milestones of 2019. I hope you find it informative and of interest.

Finally, at the time of this report going to print, the industry is being severely affected by the COVID-19. We are fully committed to support our customers, employees and more generally our business in these difficult times. Our President and CEO, Luis Maroto explains in his letter the measures Amadeus is taking in this respect.



*José Antonio Tazón*  
Chairman of the Board, Amadeus





“Staying at the forefront of technological developments that contribute to the sustainability of the travel industry is a necessary element of our long-term success as a company.”

“At Amadeus and across our industry, we believe a longer-term focus and perspective is paramount.”



# Message from the President & CEO

As our Chairman of the Board, Mr. Tazón, reflects on in this very document, the way we choose to shape and protect the world around us has rightfully made its way onto the agendas of regulators, investors and businesses alike, as well as in the hearts and minds of consumers. Beyond our commitment to making travel more responsible, sustainability for Amadeus also relates to maintaining healthy levels of financial growth for our company.

At Amadeus and across our industry, we believe a longer-term focus and perspective is paramount. Macroeconomic and geopolitical uncertainty, including extraordinary events, will always affect confidence in consumer spending decisions, impacting business generally, and in the case of the coronavirus, the travel industry in particular.

Turning to COVID-19, our priority since the beginning of the outbreak has been to ensure the health and well-being of our employees, as well as to support our customers. We have also been focused on taking the necessary steps to protect and sustain our business.

Here are some of the measures we have taken to support our different customer segments:

- \_ We have accelerated the delivery of products and services that help our airline customers be in constant contact with travelers and travel agencies, such as chatbot-driven FAQs related to the outbreak, as well as data services to help monitor their business. For some solutions we have also created dedicated support teams where customers are experiencing high transaction volumes in the current environment.
- \_ We have been working with many of our customers, including airlines, to use Amadeus' advertising space in our travel agency solutions and traveler documents to regularly provide updates, such as schedule changes, flight cancellations or other potential disruptions.
- \_ For all customers, we have maintained constant technical support through our online customer portals. Specifically, for travel agencies and hotels, we are offering remote working capabilities to help them keep servicing their customers.
- \_ We have been replacing face-to-face trainings with virtual class-rooms and expanded our extensive catalogue of e-learning resources in various languages

Regarding Amadeus specifically, we have mechanisms in place to manage and respond to events such as COVID-19 that impact our workforce. We have business continuity plans to ensure we continue working and servicing our customers with as little disruption as possible during these difficult times. For more information about our business continuity plans, please refer here: <https://amadeus.com/en/policies/amadeus-workforce-planning-and-well-being.html>.

Beyond the Coronavirus, and looking at 2019, our business showed its resilience, maintaining solid growth levels despite the slowdown in the overall travel industry. This was, I believe, mainly due to the strength and uniqueness of our offering, as well as the quality of our customer service.

Our diversification strategy is one of the key pillars which will allow us to weather this uncertainty. Last year, our new businesses grew at a double-digit rate, which supported our solid financial performance. We achieved important milestones in Hospitality, Airport

IT and Payments, with multiple agreements that allowed us to expand our customer base, and we continue to monitor the market for M&A opportunities that complement our proposition. In 2019, as one example, we acquired ICM Airport Technics, a global leader in self-service bag drop technology and inventor of the self-service Auto Bag Drop, which is a strong complementary addition to our existing Airport IT offering.

We are also evolving and strengthening our core segment and vertical businesses, and our Distribution and Airline IT businesses specifically, to help our customers meet changing traveler demands in these areas. In Distribution, we signed or renewed 47 content contracts with airlines. And we also made important progress in our efforts to make NDC a reality. In Airline IT, we continued to reinforce our international footprint, further strengthening our presence in key growing markets such as North America and APAC, with the migration of Air Canada, Philippine Airlines and Bangkok Airways to Amadeus Altéa.

None of this would have been possible without our continued investment in R&D (which represented 17.3% of our revenue in 2019) and the incredible talent of our staff. Our employees are our biggest asset and the one we are certainly most proud of.

Beyond purely business information, it is key for Amadeus to give back to the communities in which we live and work. This report shines a light on some of the corporate social responsibility initiatives we supported in 2019, particularly our very first Amadeus Corporate Volunteer Day. Also, since 2018 Amadeus has been a member of the United Nations Global Compact, underlining our full and unwavering commitment to its principles on human rights, labor, the environment and anti-corruption.

I would like to thank all our employees for their engagement, their commitment and their relentless effort to continue making us the best possible technology partner for all our customers. This gratitude extends to our customers. Their trust in our solutions and their continued desire to improve motivates us to continue innovating and pushing the boundaries.

Finally, I would also like to recognize our investors for their continued support. Earlier in 2020, they showed their trust by supporting new capital increase initiatives. That new liquidity, together with cost control measures and a new credit facility, means we are as prepared as we possibly can be to confront the turbulence created by the COVID-19 outbreak.

We expect 2020 to be challenging but we are confident that, together, the industry can overcome the hurdles ahead. People will continue to travel. Our need to explore new places and new cultures will remain. And we will continue to work closely with our customers and investors to make sure that we offer travelers the very best experiences possible both this year and beyond.



*Luis Maroto*  
President & CEO, Amadeus

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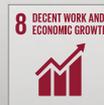
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Following global reporting trends and best practices, we have included these marks throughout this Global Report:

↪ Further information provided in another section.

**GRI 102** GRI Disclosure Label. Indicates that a Global Reporting Initiative (GRI) disclosure is reported on the page where the label has been placed.



These icons highlight the Amadeus' specific actions that contribute to key UN Sustainable Development Goals.



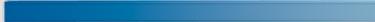
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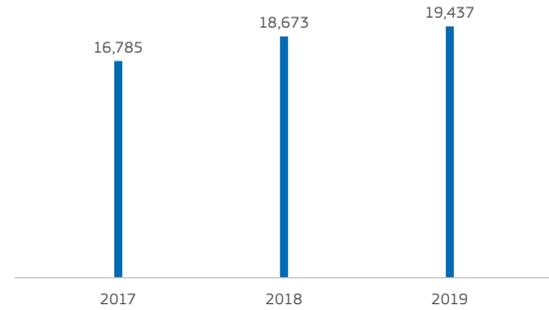


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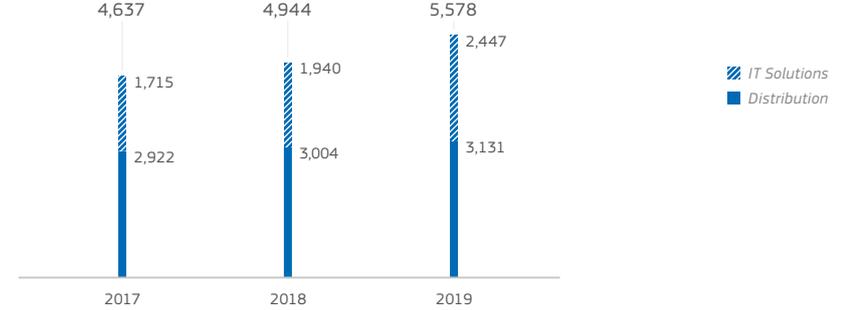
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### Total workforce (figures in FTEs)\*

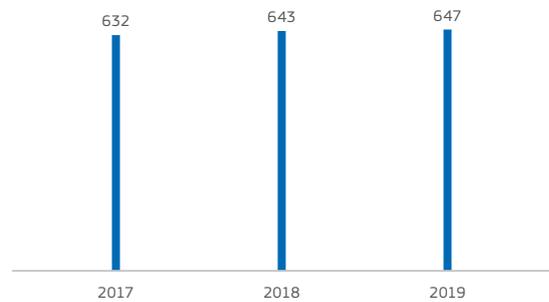


\* Scope: All fully owned Amadeus companies. Figures in full-time equivalents (FTEs) as of December 31. FTE is the headcount converted to a full-time basis, e.g. an employee working part-time covering 80% of a full time schedule is considered 0.8 FTE.

### Revenue breakdown<sup>1</sup> (figures in € million)



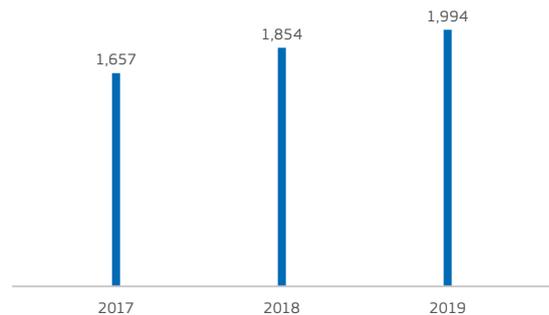
### Total travel agency bookings (figures in millions)



### EBITDA<sup>1</sup>

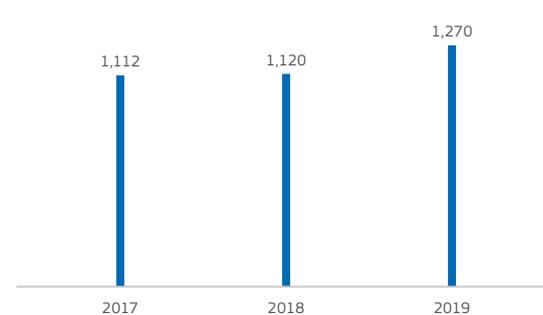


### Passengers boarded\* (figures in millions)



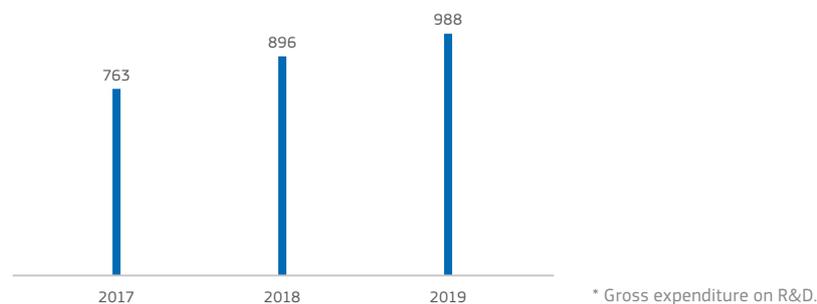
\* Actual passengers boarded onto flights operated by airlines using at least the Amadeus Altéa® Reservation and Inventory modules or Navitaire New Skies®.

### Adjusted profit<sup>1</sup> (figures in € million)

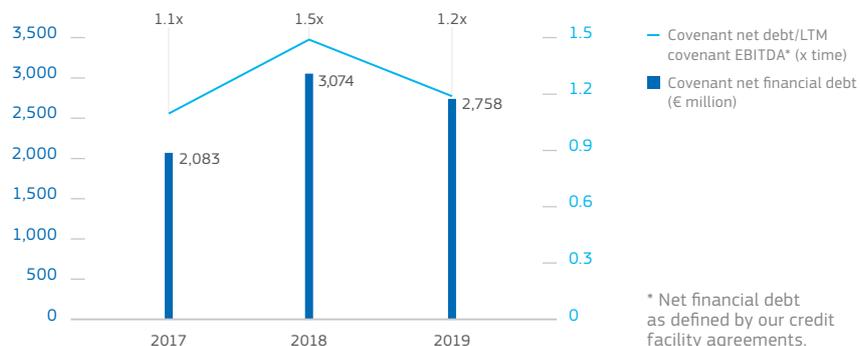


### R&D investment\*

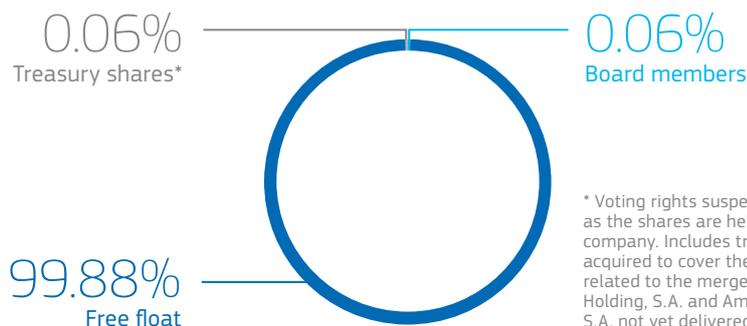
(figures in € million)



### Net debt evolution\*



### Amadeus share structure



Amadeus maintained a positive financial evolution in 2019, supported by the solid operating performances of its businesses, particularly IT Solutions, the consolidation of TravelClick and positive foreign exchange effects.

#### Travel agency bookings

Amadeus' total travel agency bookings grew by 0.5% in 2019. Air bookings remained broadly stable (excluding India, air bookings grew by 2.7% in the year), outperforming once again the industry evolution, which declined by 0.9% in 2019. Amadeus' non-air bookings increased by 5.1% to 66.2 million.

#### Passengers boarded

Passengers boarded increased by 7.5%, supported by organic growth of 6.4% and the positive impact from customer implementations. This growth was negatively impacted by several customers ceasing operations and the de-migration of LATAM Airlines Brasil. Excluding these impacts, Amadeus' passengers boarded grew by 8.5%.

#### Revenue

Revenue grew by 12.8%<sup>1</sup> to €5,578 million. Distribution revenue grew 4.2%, supported by an expansive average revenue per booking, double-digit growth in Payments Distribution, an increase of 0.5% in bookings and positive foreign exchange effects. IT Solutions revenue grew by 26.2%<sup>1</sup> in 2019. This evolution was driven by high single-digit growth in Airline IT solutions, a double-digit revenue growth in our diversification areas, the consolidation of TravelClick and positive foreign exchange effects.

#### EBITDA

EBITDA increased by 10.0%, to €2,245.3 million. EBITDA growth resulted from the increase in the Distribution and IT Solutions contributions, partly offset by an increase in net indirect costs. EBITDA growth was positively impacted by foreign exchange effects. EBITDA margin declined by 1.0 p.p. to 40.3%, impacted by the TravelClick consolidation, a decrease in the Group capitalization ratio, and a double-digit growth rate delivered by our distribution payments business, a lower-margin business. Excluding the impact from these effects, EBITDA margin was broadly stable.

#### Adjusted profit

Reported profit amounted to €1,161.6 million. After adjusting for accounting effects derived from purchase price allocation (PPA) exercises and impairment losses, non-operating exchange gains and other non-operating items, adjusted profit increased by 13.4%<sup>1</sup> to €1,270.2 million.

#### R&D investment

A sustained and consistent investment in technology has been key to our success. In 2019 we devoted 17.7% of our revenue to R&D, or €988.3 million.<sup>2</sup> This investment was dedicated to support our mid- to long-term growth.

#### Net debt

Net financial debt, as per our credit facility agreements' terms, amounted to €2,758.4 million at December 31, 2019 (representing 1.23x times last-twelve-month EBITDA). The main changes to our debt in 2019 were: the amortization of €500 million bonds issued in May 2017, which reached maturity in May 2019; the increase in the use of the Multi-Currency European Commercial Paper program by a net amount of €250 million; and the repayment of €65.0 million related to our European Investment Bank loan.

<sup>1</sup> Adjusted to exclude costs related to TravelClick's acquisition (amounting to €9.4 million and €19.5 million in 2019 and 2018, respectively, before taxes) and PPA effects (which reduced revenue and EBITDA by €7.8 million and €3.6 million, respectively, in 2019, and by €8.2 million and €7.7 million, respectively, in 2018. Adjusted profit is not impacted by PPA effects).

<sup>2</sup> R&D net of research tax credits was €965.3 million, representing 17.3% of revenue.

# Amadeus in the travel industry

## CHAPTER 1

### 1.1 Travel industry market



#### Overall travel volumes

The contribution of travel and tourism to the world economy is estimated at USD 8.8 trillion, or more than 10% of the global GDP. This industry currently supports 319 million jobs – almost 1 in 10 globally.<sup>1</sup>

For eight consecutive years, the travel and tourism sector has outpaced global economic growth. The direct contribution of travel and tourism to GDP in 2018 was USD 2.8 trillion (3.2% of GDP). This is forecast to rise by 3.6% in 2019.<sup>1</sup>

<sup>1</sup> Source: World Travel & Tourism Council (June 2019). *Travel & Tourism Benchmarking Reports 2019*

From 2019 to 2029, the direct contribution of travel and tourism to GDP is expected to grow at an annual compound rate of 3.6%.<sup>1</sup>

Air traffic measured in terms of Revenue Passenger Kilometer (RPK) is expected to grow at an average 4.3% p.a. in the next 20 years.<sup>2</sup> Hospitality is also growing at a healthy rate, with a 9% increase in number of rooms worldwide between 2014 and 2018.<sup>3</sup>

#### Regional development

Developments in the travel sector will be very uneven across different regions of the world.

Growth in the travel industry is particularly strong in Asia-Pacific, the Middle East and Africa, with travel and tourism direct GDP expected to grow at compound annual rates of 5.3%, 3.8% and 4.2% respectively. Latin America region is expected to grow at a compound annual rate of 3.1% during the same period.

<sup>2</sup> Source: <https://www.airbus.com/content/dam/corporate-topics/strategy/global-market-forecast/GMF-2019-2038-Airbus-Commercial-Aircraft-book.pdf>.

<sup>3</sup> Source: <https://www.ihgplc.com/-/media/50F593528E2E447A86FDA7ED4D3DF3E2.ashx>.



On the other hand, Europe and North America are expected to grow at an annual rate of 2.3% and 2.6% respectively.<sup>1</sup>

Looking at air traffic, the same picture emerges, with Asia-Pacific and the Middle East expected to grow at a compounded annual rate of 5.5% and Africa and Latin America at around 4.8% and 4.3% respectively, with more moderate growth of 3.3% and 3.0% for Europe and North America respectively.<sup>4</sup>

As a consequence of these regional growth differentials, the center of gravity in the travel world will shift from west to east, with Asia-Pacific being the major growth catalyst. By 2024 China will have displaced the US as the world's largest aviation market,<sup>5</sup> driven by continued robust economic growth, an upsurge in middle-income households and an increase in first-time flyers. By 2030 three out of four of the largest aviation passenger markets will be in Asia. Indeed, out of 44,000 airplanes projected to be delivered over the next 20 years, 17,000 will be to Asian markets.<sup>6</sup> This growth is supported by the increase in airports in the region: between 2012 and 2018, where the net number of new airports worldwide was 176, a full 165 of these were in the Asia-Pacific region.<sup>6</sup> And looking forward, China is aiming to build 200 new airports by 2035,<sup>7</sup> and India 100 by 2025.<sup>8</sup>

Amadeus is well positioned to capitalize on this Asia-Pacific growth. We have a wide local presence and a workforce of close to 4,300 people in the region,

representing 22% of our total workforce.<sup>9</sup> We also have a strong market position in the distribution business and many important carriers as customers in our Airline IT business.

## Trends with a potential to impact travel volumes

Expected travel volumes can be affected by geopolitical events, economic growth levels, capacity constraints, the evolution of multimodal travel, and sustainability issues.

### Geopolitics

Geopolitical and security events in certain parts of the world are affecting travel significantly.

Political tensions and an increased level of protectionism are affecting travel negatively. Indeed, in 2018 the International Air Transport Association (IATA) projected significant differences in the growth of air travel over the next 20 years under a base case scenario ("Constant Policy": 3.5% growth p.a.) and two extreme scenarios ("Reverse Globalization": 2.4% p.a.; "Maximum Liberalization": 5.5% p.a.).<sup>9</sup> In terms of number of passengers in 2037, this shows a difference of a factor of almost two between the best- and worst-case scenarios by the end of the period.

At the same time, threats of terrorism are leading to restrictions on travel, increased security and border control, and an increased administrative burden on the traveler. This, coupled with a reduced appetite for travel, can have a dampening effect on demand. But experience has shown that security issues tend to only affect specific countries or regions and are generally short-lived. In addition, Amadeus' high geographical diversification helps to limit the impact of such issues on our business. Technology has provided solutions for security issues in the past, and this is likely to continue, presenting a further

<sup>4</sup> Source: <https://www.airbus.com/content/dam/corporate-topics/strategy/global-market-forecast/GMF-2019-2038-Airbus-Commercial-Aircraft-book.pdf>.

<sup>5</sup> Source: <https://www.iata.org/contentassets/6faf144041864834820cc7963b2127ee/gaps-2019-plenary.pdf>.

<sup>6</sup> Source: <https://www.boeing.com/resources/boeingdotcom/commercial/market/commercial-market-outlook/assets/downloads/cmo-sept-2019-report-final.pdf>.

<sup>7</sup> Source: <https://simpleflying.com/china-to-build-250-new-airports>.

<sup>8</sup> Source: <https://www.newindianexpress.com/nation/2019/oct/31/india-plans-to-open-100-new-airports-by-2024-to-revive-economic-growth-2054913.html>.

<sup>9</sup> See "Amadeus people and culture," p. 62.

<sup>9</sup> Source: <https://www.iata.org/pressroom/speeches/Pages/2018-10-24-01.aspx>.

## Impact of COVID-19

At the time of this report going to print, the travel industry is being severely affected by the impact and spread of COVID-19, the coronavirus. It is difficult to predict how long this situation will last or what the consequences for the global economy will be, and we are monitoring the situation closely. We've established dedicated teams to ensure the well-being of our employees, as well as support for our customers. Some of the measures taken include the accelerated delivery of products and services that help our airline customers be in constant contact with travelers and travel agencies, using Amadeus' advertising space to regularly provide updates. Our technical support teams remain available to help our customers keep servicing travelers, and our technology solutions enable replacing face-to-face interactions with virtual solutions wherever this is required, e.g. in work-from-home situations. We are taking necessary precautionary measures to reduce costs and protect our financial position and to ensure business continuity through this crisis, and to be able to resume activities as quickly as possible when the situation is normalized.

opportunity for large travel IT providers with the required scale and reach such as Amadeus.

## Economic growth

Economic growth levels have a significant impact on travel industry growth. For example, the 20-year median growth rate of air passengers in terms of passenger kilometers flown is just above 2 times that of the global GDP,<sup>10</sup> although this multiplier varies substantially over time and from one region to another. So future economic recessions or upturns will have a strong impact on travel volumes.

## Capacity constraints

The increase in travel is leading to strains on travel infrastructure, and in particular on airports. In 2019, 204 airports were designated Level 3 slot-coordinated facilities, meaning that they do not have the runway, ramp or gate capacity to handle all of the flights that carriers would like to operate.<sup>11</sup> At the same time, despite the strong investments in airports, long-term demand in Europe is expected to exceed capacity.<sup>12</sup> Likewise, pilot shortages could be a large challenge for the industry.<sup>13</sup> As technology can facilitate more efficient use of these scarce resources, the industry will need to invest in IT systems.

## Multimodal travel

Multimodal travel means using different modes of transport for a particular itinerary. It is gaining ground not just because there's an increasing demand for seamless door-to-door travel, but also because governmental agencies and transport authorities are seeing an opportunity to reduce carbon emissions as well as alleviate congestion and pollution. The extent to which travel supply chains can integrate multimodal transport services into a one-search, one-ticket, one-click purchase could boost future travel volumes.

<sup>10</sup> Source: <https://www.iata.org/en/iata-repository/publications/economic-reports/air-travel-gdp-multiplier-falls-sharply-back-to-its-20-year-median/>.

<sup>11</sup> Source: <https://www.iata.org/en/iata-repository/pressroom/media-kit/slots-gmd2019/>.

<sup>12</sup> Source: <https://www.iata.org/contentassets/6faf144041864834820cc7963b2127ee/gaps-2019-plenary.pdf>.

<sup>13</sup> Source: <https://www.cnbc.com/2019/06/17/boeing-ceo-says-global-pilot-shortage-is-one-of-the-biggest-challenges.html>.

The European Union declaration of 2018 as the Year of Multimodality<sup>14</sup> is a clear illustration of policy intent to support "one-stop shop" technology that can enable the sale of multimodal travel. Amadeus' strong presence in travel positions us well to synchronize solutions with this emerging trend.

In fact, Amadeus has been working with the European Commission on multimodality projects for some years now. Among other projects, we've been involved in Shift 2 Rail and All Ways Travelling. As a facilitator of connectivity, Amadeus is in a unique position to make multimodality a reality, which we are committed to.

## Sustainability

The travel and tourism sector faces issues such as overcrowded destinations, income inequalities and human-induced climate variability. The climate issue in particular has received much more attention over recent years. Social movements like "flight-shaming" have attracted unprecedented attention, and the industry needs to respond with facts and action. We expect a more specific and strict legal framework on these and other issues to emerge, which could have a negative impact on travel.

In regards to aviation, however, the industry is determined to grow sustainably, committing to cutting net emissions to half the 2005 levels by 2050.<sup>15</sup> As such, many airlines have taken an active role in addressing this issue. For example, EasyJet have announced that they will offset the emissions of all of their flights.<sup>16</sup> And technology from IT companies such as Amadeus can contribute to the more efficient use of infrastructure and energy. ↪

## The need for technology to support the evolution of the travel industry

The evolution and growth of the industry is highly dependent on technology.

For travel providers to succeed in today's world, a strong focus is required not only on cost efficiencies but also on revenue

<sup>14</sup> Source: [https://ec.europa.eu/transport/themes/logistics-and-multimodal-transport/2018-year-multimodality\\_en](https://ec.europa.eu/transport/themes/logistics-and-multimodal-transport/2018-year-multimodality_en).

<sup>15</sup> Source: <https://www.boeing.com/resources/boeingdotcom/commercial/market/commercial-market-outlook/assets/downloads/cmo-sept-2019-report-final.pdf>.

<sup>16</sup> Source: <https://www.easyjet.com/en/sustainability>.

↪ See "Environmental benefits of Amadeus solutions," p. 101.

maximization, as well as brand and customer loyalty. In this context, technology also plays an important role in enhancing a wide variety of core operations for travel providers. Amadeus has IT offerings for, among others, airlines, hotels and airports. ↪ <sup>1</sup>

The travel ecosystem consists of countless providers – airlines, hotels, railways, car rental companies, destination services providers, etc. – as well as countless travel sellers. Technology is powering the ecosystem by connecting all these different travel providers, allowing travelers to search for and book the optimal journey, consisting perhaps of several travel services (e.g. air, hotel and car). Amadeus plays an important role in powering this ecosystem via our distribution business, which connects travel providers with travel sellers all over the world. ↪ <sup>2</sup>

The inconveniences sometimes linked to travel can be a significant impediment in the evolution of the travel industry. However, recent and emerging technologies could help all actors deliver a more frictionless experience. For example:

- Travelers' journeys have different physical checkpoints all along the trip. Typically, repetitive ID checks create frustration on the traveler side, as well as cost increases, inefficiency and revenue losses on the airline and airport side. Providing a digital identity tightly linked to the user's physical identity can enable a more seamless and personalized processing of the traveler while increasing security in travel touchpoints. Amadeus is exploring solutions and technologies to simplify the traveler's identification throughout the entire journey. This involves a unique and certified digital identity controlled by the traveler, who can then also benefit from hyper-personalized services.
- The use of artificial intelligence makes it possible to fine-tune search results based on the traveler's explicit and implicit preferences to create highly personalized and contextual offers for their next flight, hotel room or car rental. Artificial intelligence can also improve travel actors' operations by predicting the unexpected and pro-actively proposing relevant solutions in case something goes wrong. The potential annual efficiency gains from artificial intelligence are significant and could reach USD 400 billion for the travel industry alone.<sup>17</sup> Amadeus is researching new artificial intelligence technologies to enhance the travel experience.

↪ <sup>1</sup> See "Business lines," p. 20.

↪ <sup>2</sup> See "Distribution," p. 22.

<sup>17</sup> Source: <https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-applications-and-value-of-deep-learning>.

- The Internet of Things – and more generally, connecting objects, data, processes and people – is expected to become a major technology trend. Amadeus is working on use cases for the travel industry, like asset tracking (e.g. tracking of luggage).
- Other emerging technologies like FPGA,<sup>18</sup> augmented/virtual reality and robotics also have the potential to impact our industry.

Amadeus is supporting travel industry growth with significant investment in technology. Amadeus has spent 17.7% of revenues on R&D in 2019 (€988 million) and it is ranked as the second-largest R&D investor in the software industry in Europe.<sup>19</sup>

## 1.2 Amadeus profile



### At the heart of travel

Travel fulfills our need to explore the world – to see new places, meet new people and be near to what's important to us. Travel powers progress – it builds economies, broadens cultures and creates connections between societies. The travel industry is dynamic, powerful and fast-moving. And it is one of the world's largest business sectors.

Technology has always been critical to developing global travel and increasing scale and access. Travelers today expect to be continuously connected. Mobile devices, artificial intelligence and data analytics are giving people more ideas, options and control over their journey, and they expect personalized experiences. To keep up with these changes, the industry must continue to innovate, and in a way that is sustainable and responsible.

Amadeus sits at the crossroads of travel and technology. We're passionate in our pursuit of better technology to make better journeys. We connect travelers to the journeys they want, and we power the solutions that keep the world of travel moving.

<sup>18</sup> Field-programmable gate array: a type of hardware that promises to accelerate computationally intensive applications such as artificial intelligence.

<sup>19</sup> Source: <https://iri.jrc.ec.europa.eu/scoreboard/2019-eu-industrial-rd-investment-scoreboard>.

## Who we are

Amadeus is a technology company dedicated to the world's travel industry. We have a truly global team of more than 19,000 professionals from over 145 nationalities serving customers in more than 190 countries. We're committed to helping global travel make a positive impact on communities around the world.

We've built a commercial and operational network all over the globe, which is key for our value proposition. Our corporate headquarters are in Madrid, Spain; our main research and product development center is located in Nice, France; and our core operations are run from our site near Munich, Germany.

We operate under a highly resilient, transaction-based business model linked to global travel volumes. We're a publicly listed company and part of the Spanish IBEX 35 Index, which includes the biggest, most liquid companies in the Spanish stock market, and the EURO STOXX 50 Index, comprising 50 of the largest and most liquid stocks in the eurozone.

## What we do

Amadeus offers cutting-edge technology solutions that help travel industry stakeholders succeed. We connect travel players and make personalized journeys happen.

We invest hundreds of millions of euros each year in research and development. We design our solutions around our customers' needs as well as their customers' needs. At all stages of the travel experience – from inspiration to shopping, booking, on-trip and post-trip – our solutions help deliver better service to travelers.

We help travel providers package and deliver their content across both direct and indirect channels. Our customer management solutions help them manage and enhance the customer experience, from first contact to check-out and beyond.

For airlines, this means improving passenger processing capabilities. We've developed solutions to facilitate that flights take off on time, every bag is tracked and every disruption is dealt with as effectively as possible.

For corporations, this means providing staff with improved self-booking and duty of care solutions. We offer solutions built to automate processes and handle all essential mid- and back-office tasks – hassle-free. These give corporate travel and finance managers greater control across all travel programs. Our dedicated finance and accounting tools can also help our corporate customers with managing travel information and making strategic travel decisions.

We also provide solutions to help the hospitality sector manage properties and resources more efficiently. Our technology and insight helps our customers develop tailored content and promotions than enhance the guest experience. We also help optimize the delivery of that experience so that guests' loyalty increases. We offer analytics and intelligence solutions built to help anticipate trends, adapt to market shifts and monitor performance. This means travelers get more than just a great travel experience – they get one designed to meet their individual preferences, needs and expectations.

We also offer industry-leading consultancy services to help transform travel businesses for the better.

### Sales & marketing

- \_ Direct & indirect distribution
- \_ Traffic acquisition & conversion
- \_ Point of sale & payment
- \_ Revenue management
- \_ Digital retail & merchandizing

### Operations

- \_ Flight operations
- \_ Airport operations
- \_ Hospitality operations
- \_ Property & resource management

### Analytics & intelligence

- \_ Personalization
- \_ Market insight
- \_ Data integration
- \_ Consulting services

### Business management

- \_ Process automation
- \_ Expenses
- \_ Finance & accounting
- \_ Mid- & back-office

### Customer, guest & traveler management

- \_ Customer experience
- \_ Passenger processing
- \_ Corporate booking & duty of care
- \_ Loyalty & awards



### Amadeus' presence in the world

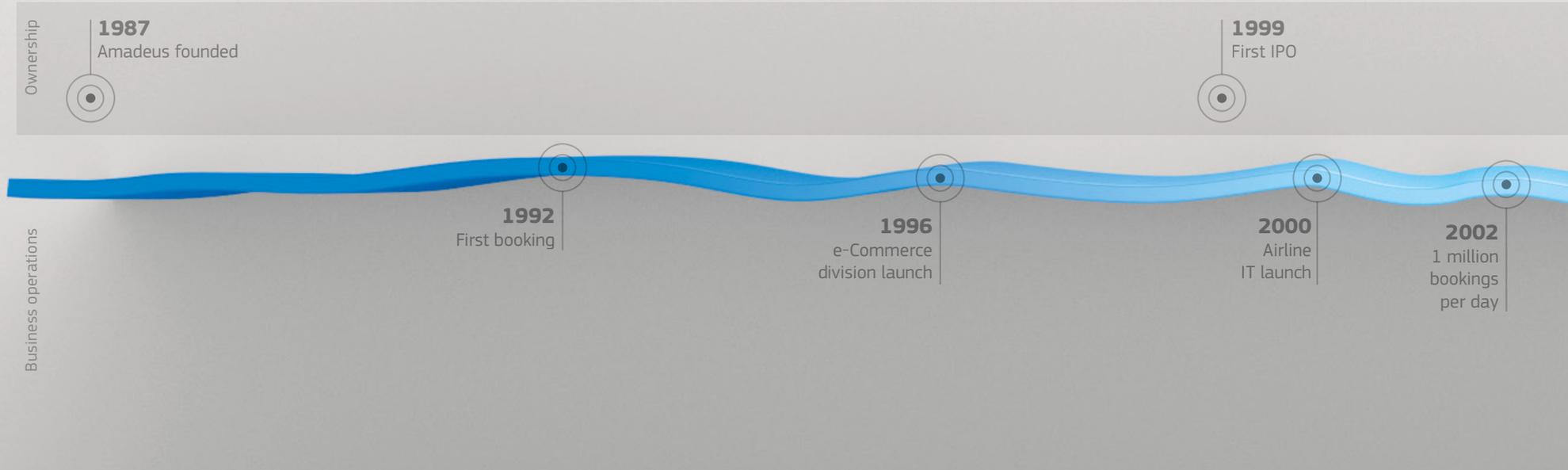


○ Headquarters

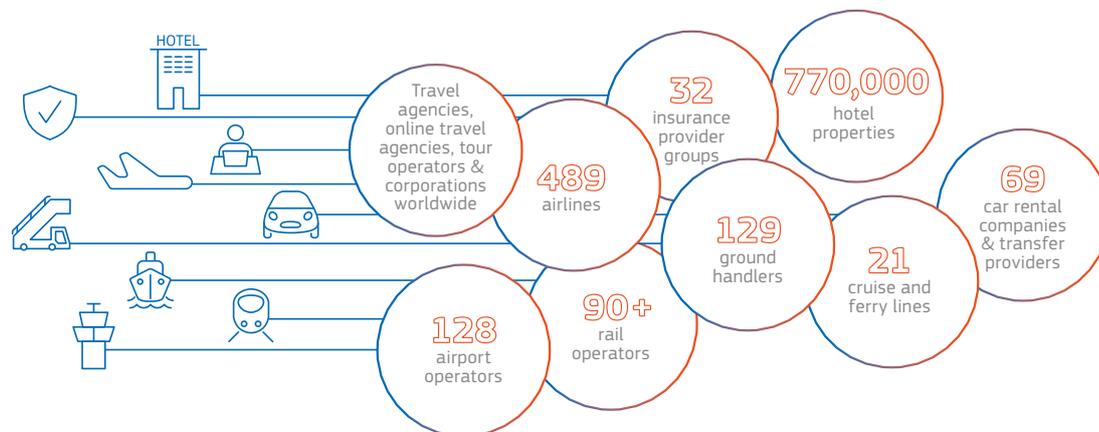
Sites marked only with a dot in the map represent smaller Amadeus sites, branches, companies non-wholly owned by Amadeus and distributors.

We have  
**100+ offices**  
around the world and operate in  
**190+ markets**

## Our history and key milestones



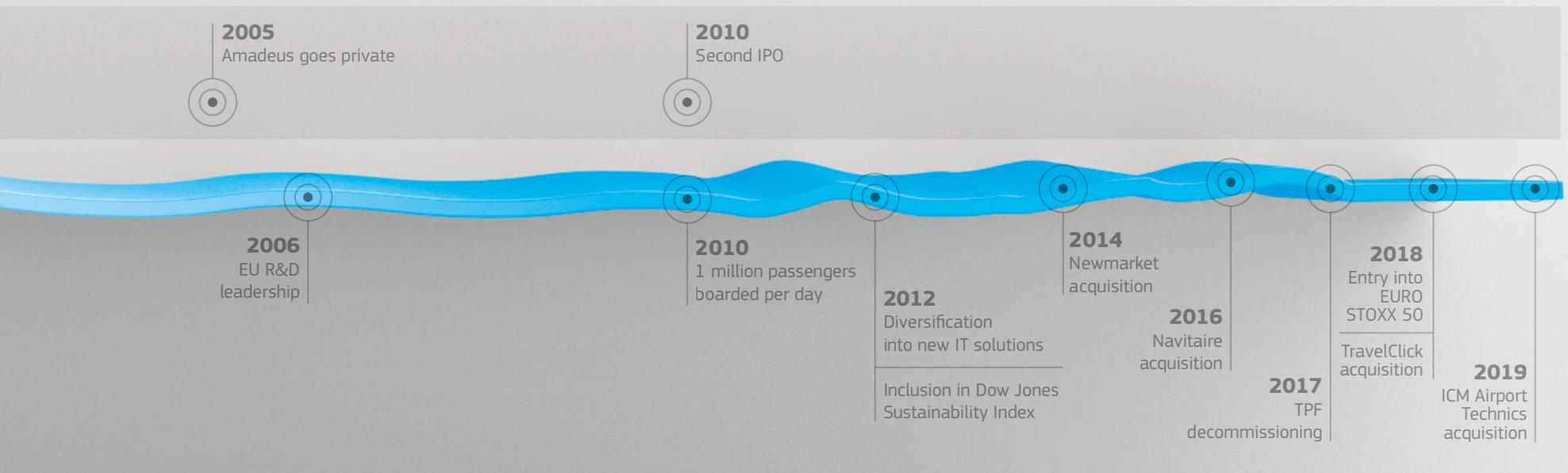
## Our customers



## The customers we serve

We build technology solutions that serve every part of the global travel ecosystem: airlines and airports, hotels and railways, search engines, travel agencies, tour operators, and other travel players. We help them run their business and improve the travel experience all over the world. And we continue to innovate, bringing more products and services to market as quickly as possible, so we can deliver on customer expectations and respond to industry challenges.

Amadeus sits at the heart of every journey. Connecting travel providers, buyers and sellers, we process 20 bookings every single second – that’s more than 1.8 million bookings a day.



## Where we've come from – our history and key milestones

Amadeus was formed in 1987 by our four founding airlines: Air France, Iberia, Lufthansa and SAS. From our origins supporting airline distribution and then IT, we gradually expanded our capabilities to serve customers across the entire travel industry. Fast-forward three decades, and Amadeus has become one of the world's largest technology providers for travel and tourism.

Over the years, we've broadened our scope, launching our Airline IT business in 2000 and building on that with the acquisition of Navitaire in 2016 to broaden our offerings for low-cost carriers.

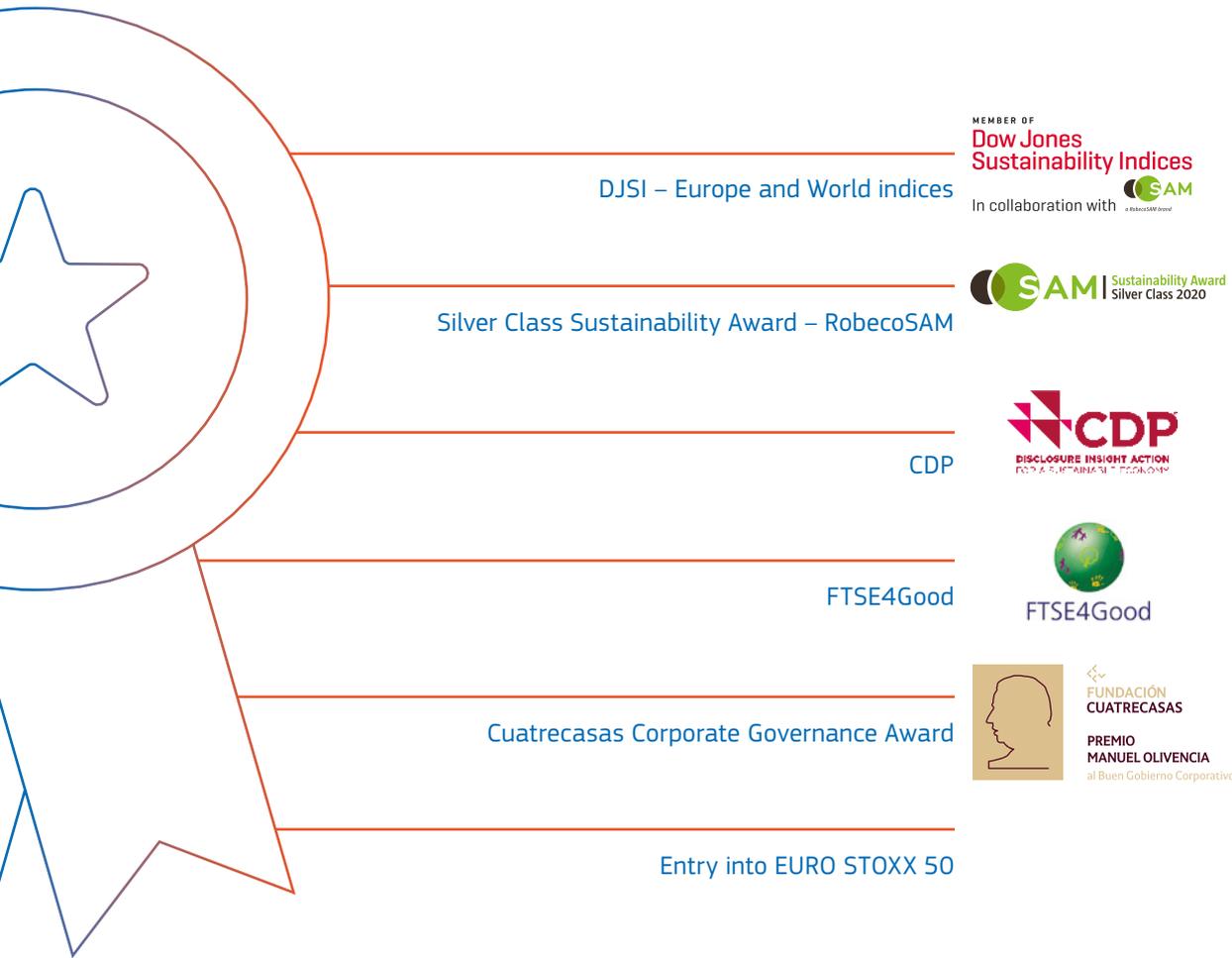
We accelerated our move into the hotel IT sector with the acquisition of Newmarket in 2014. Our acquisition of TravelClick in 2018 confirmed our strong commitment to the hospitality industry, broadening our product portfolio, know-how and global presence. In a highly fragmented market, Amadeus now has the people and the technology to help all hoteliers rise to the challenge of delivering a great experience for their guests.

We've also expanded our portfolio to include merchandizing, revenue management, travel intelligence and travel expense management, harnessing the potential of cloud computing, mobile applications and big data for our customers.

Throughout our history, investment in research and development has been integral to our growth.

## Recognition and awards

We are committed to investing in innovation and collaboration, developing talent, promoting sustainable business practices, advancing the travel industry and giving back to society. In 2019 respected organizations all over the globe recognized our efforts and achievements in these areas.\*



\* For a full list of our awards, please visit: [www.amadeus.com/awards](http://www.amadeus.com/awards).

## Where we're going

Since 1987, we've been a leader in the evolution of the travel industry. And we're always looking for ways to keep our customers and partners at the forefront of the latest trends, so they can provide travelers with a consistent, personalized experience throughout their journey. We retain our unique vision, determination and commitment to working more closely than ever with our customers, existing and new, to shape the future of travel together.

Today's travelers want a more personalized way to travel. They want to search for experiences that are unique to them. They also expect their journeys to be one single, smooth experience – from thinking of where to go, to getting to their destination, to arriving back home. At Amadeus, we believe that this desire for connectivity will continue to grow – across all modes of transport, experiences and devices. And travelers will also want their travel providers to make a positive impact on society and the environment, both locally and globally.

We're investing in these opportunities and exploring new models that will drive our own and our customers' growth, experimenting with technologies that'll make travel more rewarding for all of us. We're working in a more agile way. We're making processes leaner. We're building new and better ways to collaborate. And we're using new structures and systems to catalyze cooperation across teams, functions and geographies – within Amadeus and with our customers.



Mr. Tazón, Chairman of the Board, receives the Manuel Olivencia Award from the Cuatrecasas Foundation. It acknowledges the best corporate governance practices by Spanish listed companies. The Spanish Minister of Economic Affairs and Digital Transformation attended the award ceremony, which was held at the Madrid Stock Exchange Palace.

## Amadeus' Executive Committee

**Christophe  
Bousquet**

Senior Vice President,  
Airlines R&D

**Francisco  
Pérez-Lozao**

Senior Vice  
President, Hospitality

**Tomas López  
Fernebrand**

Senior Vice President,  
General Counsel &  
Corporate Secretary

**Stefan  
Ropers**

Senior Vice President,  
Strategic Growth  
Businesses

**Decius  
Valmorbida**

Senior Vice President,  
Travel Channels

**Denis  
Lacroix**

Senior Vice President,  
Core Shared Services  
R&D

**Wolfgang  
Krips**

Senior Vice President,  
Corporate Strategy

**Julia  
Sattel**  
Senior Vice  
President, Airlines

**Ana  
de Pro**  
Chief Financial  
Officer

**Luis  
Maroto**  
President & CEO

**Sabine  
Hansen Peck**  
Senior Vice President,  
People, Culture,  
Communication  
& Branding

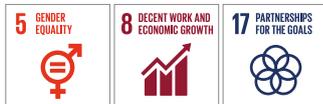
**Sylvain  
Roy**  
Senior Vice President,  
Technology Platforms  
and Engineering



# Business lines

## CHAPTER 2

### 2.1 Introduction



Amadeus operates a number of complementary business lines with significant commercial and technological synergies. Through them, we offer cutting-edge technology solutions that help key players of all types in the travel industry succeed.

#### Distribution

Amadeus' Distribution business is two-sided. On one side we have travel channels: travel sellers such as online travel agencies, retail travel agencies, business travel agencies, consolidators and tour operators, or buyers like corporations. And on the other we have travel providers: airlines, hospitality providers, car rental operators, railways, cruise lines, etc.

Our travel channel customers access the content of connected travel providers through our platform.

That way they can search, plan and book complete travel experiences for the travelers.

Our travel provider customers, through that same platform, get efficient global reach and can position their offer, including the sale of ancillaries<sup>1</sup> or travel extras, more effectively.

Our solutions help our travel channel customers better serve their travelers, including personalized travel, and to operate their business more effectively with front-, mid- and back-office solutions. We help our customers deliver an integrated traveler experience with important business benefits, such as integrated travel and expense management solutions for corporations.

Our Distribution business operates on a virtuous cycle: the more relevant travel content and customized solutions we offer, the more we attract travel channel customers. By offering access to the strongest global network of travel channels, we're a partner that can help travel providers grow high-

<sup>1</sup> Ancillary services: additional services provided to customers beyond the ticket. Typical examples of airline ancillary services include extra baggage, priority seating, catering on board, etc.





margin sales. And with a platform that's flexible enough to accommodate an increasing variety of distribution models and that makes the most of the latest technologies, we help all our customers deliver better travel experiences day after day.

## IT solutions

### Airline IT

Amadeus helps airlines – whether they're full-service, hybrid or low-cost – deliver on their business objectives. Our solutions allow them to grow revenue, optimize efficiency and build brand loyalty.

We support airlines so they can provide travelers with a consistent, personalized customer experience throughout every stage of the journey – from inspiration to booking, check-in and boarding.

Offering a great traveler experience is how airlines increase customer loyalty and differentiate their brand.

We work in partnership with our airline customers to deliver a broad set of technology solutions to optimize core operations, including:

- \_ Reservations
- \_ Ticketing
- \_ Inventory management
- \_ Departure control
- \_ Disruption management
- \_ Retailing and merchandizing
- \_ Personalization
- \_ Revenue optimization
- \_ Finance

We also provide airlines with business consulting and process optimization services.

Importantly, our platform is adaptable to accommodate airlines' evolving business models and expansion into new markets and partnerships.

Through Amadeus, airlines can collaborate with their alliance, codeshare and other strategic partners to maximize sales, through the largest global network of travel agencies and through direct channels.

## Hospitality

We're focused on helping our hospitality customers in three key ways:

1. Understanding their guests and market
2. Enhancing the guest experience
3. Driving loyalty and increasing profitability

We use our deep understanding of the world of travel to help our customers attract guests and drive profitable demand. We have the data, technology and insight to help our customers tailor content and promotions to enhance the guest experience and improve their own profitability.

We're also technology leaders with products that enable smarter service delivery so our customers can know their guests, anticipate their needs, exceed their expectations and ultimately create loyalty. We believe that operational excellence leads to positive guest experiences, which in turn leads to repeat bookings.

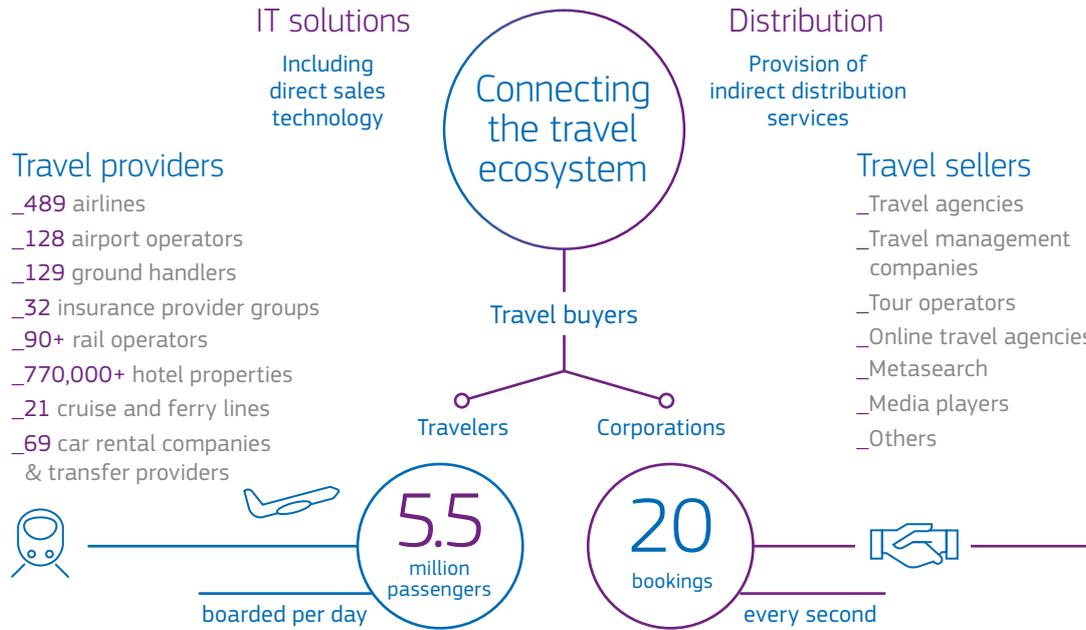
## Other areas of diversification

Amadeus provides technology at all stages of the traveler journey, and we have the capability to serve almost every player in the travel industry. This puts us in a unique position to diversify and grow our business in new markets.

Over recent years we've been diversifying our business to provide technology solutions to other key sectors in the industry. This includes airports and ground transportation, as well as transversal operational areas relevant to all travel industry players, such as payment systems and travel advertising.

We continue to expand our scope of solutions in all of these areas. As well as being strong businesses in their own right, these complement our solutions offering to customers of all profiles.

## Amadeus at the heart of travel



## 2.2 Distribution



The travel industry is going through a major transformation. Travelers are setting the rules and challenging traditional business models with their fast-changing behavior.

At Amadeus we want to help travel sellers navigate these changes and keep up with travelers' expectations as well as technological advancements. As travelers demand more choice, the role of travel sellers as intermediaries is more critical than ever.

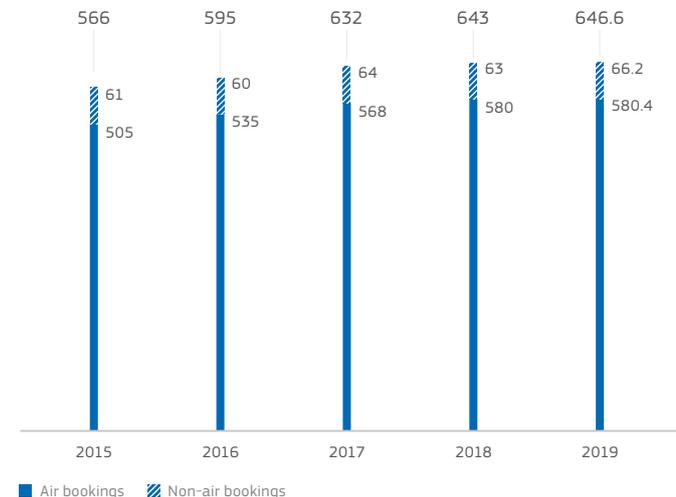
We work to create a win-win proposition for all parties. We're building a Live Travel Space for industry players to connect and collaborate to offer travelers the journeys they want via a wide range of options, right when they want them. It's a space for our customers to grow with solutions that are tailored to how they want to do business and serve travelers.

The goal of our Distribution unit is to be where travelers are buying trips. We allow providers of flights, ground transportation, accommodation and other services to distribute their content to a global network of travel sellers and corporations, so that travelers can shop and book the travel they want.

We know one size doesn't fit all, and we're committed to making personalization a reality for the travel industry. In the Live Travel Space travel sellers find the richest content, from all sources and via any channel and device. It's also a space for travel providers to customize their offer however they wish, across all touchpoints. We embrace all technologies and accommodate different business models to ultimately deliver better journeys to travelers.

### Amadeus total bookings\*

(figures in millions)



\* Bookings processed by travel agencies using Amadeus distribution platforms.

## Our technology and our people fuel the Live Travel Space

The Amadeus Travel Platform is at the core of our investment. This platform brings travel sellers unlimited possibilities with a world of content integrated from any source. Through this platform they can offer travelers personalized experiences, so that they, in turn, can explore the world in their own unique way.

The Live Travel Space is fueled by a global Amadeus network of over 19,000 professionals – over 6,000 of whom are in our Distribution unit. The team includes developers, data scientists, industry experts, consultants and local market specialists. Our people are dedicated and passionate about helping our customers succeed and building long-term partnerships based on trust.

Our technology and services encompass the full travel experience, from the moment of inspiration and search, to full travel planning, post-trip evaluation, social sharing, and expense management for business travelers. Our portfolio includes integrated front-, mid- and back-office solutions, as well as self-booking and expense management tools.

In 2019 we continued working closely with our travel seller customers, with our commercial activities organized around four key segments:

1. Retail travel agencies
2. Online travel companies
3. Business travel agencies
4. Corporations

Leading brands of travel agencies and corporations have joined our network, and we've further evolved the Amadeus Travel Platform to help our customers remain competitive and sell travel in a more efficient and personalized way.

We also continued our efforts to industrialize the New Distribution Capability (NDC)<sup>2</sup> standard and to ensure it works for everyone in the industry.

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<sup>2</sup> NDC is a program launched by IATA for the development and market adoption of a new XML-based data transmission standard (NDC Standard) between airlines and travel agencies.

## Our innovative technology: the Amadeus Travel Platform

We're evolving the Amadeus Travel Platform to be more robust, flexible and scalable. Based on fully open systems that harness the intelligent use of data, it's a one-stop shop that brings together into a single platform all relevant content – including air, accommodation, rail, mobility, insurance and destination – from any source (EDIFACT<sup>3</sup>, NDC and other APIs<sup>4</sup>).

The industry is on a journey to greater digitalization, and NDC is part of that journey. We believe that it has the potential to deliver new benefits for the travel industry and travelers, with more and faster innovation, greater personalization and new retailing possibilities. That's why Amadeus created NDC [X], a dedicated program to drive the industrialization of NDC and ensure it brings benefits for all travel players.

2019 saw NDC really start to take off, with some important milestones:

- \_ In the first half of the year, we launched our NDC-enabled Web Services solution, [Amadeus Travel API](#), which we're gradually rolling out globally. This API integrates with travel agencies' existing systems and allows agencies to build their own customized travel booking applications for NDC content. The solution gives airlines greater offer differentiation and travel agencies access to more content and functionality.
- \_ We also launched our [NDC-enabled Amadeus Selling Platform Connect](#). Our cloud-based booking platform allows travel sellers to shop, order, pay for and service airline travel offers via NDC connectivity. A main advantage for travel sellers is that they can now view and compare all available airline flights and related services for any given trip on one single screen, whether sourced from EDIFACT, NDC or other APIs. It's the first time travel sellers can access such a full range of air content all in one place, making it easier for them to compare offers and help their customers find the best value.
- \_ We achieved [Level 4 NDC certification](#) as an aggregator and as an IT provider from the International Air Transport Association (IATA). NDC is only useful to the corporate traveler if the

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<sup>3</sup> EDIFACT is the Electronic Data Interchange standard developed under the United Nations for Administration, Commerce and Transport. It was traditionally used by Global Distribution Systems (GDS) in the travel industry.

<sup>4</sup> Application programming interface, a language that enables communication between computer programs.

## Amadeus Travel Platform

*Millions of travelers.  
Unlimited possibilities.  
One platform.*

**1 All travel content integrated into one platform** so you can deliver the experiences your travelers want:

- \_Air
- \_Accommodation
- \_Rail
- \_Mobility
- \_Insurance
- \_Destination

**2 All the content sourced, aggregated and standardized** making it easy for travel agents to use.

**3 Available on a range of channels and interfaces** giving you the flexibility to book the way you want:

- \_Amadeus Selling Platform Connect
- \_Amadeus cytric Travel & Expense
- \_Over 1,000 different services and APIs for front-ends and mobile
- \_Amadeus' chatbot Amanda
- \_Web services like Amadeus Travel API

**4 Delivering the benefits of big data, artificial intelligence and machine learning** so you have all the insights to make the best decisions.

**5 Deploying the newest interfaces and architectures with our robust cloud-computing open system** so you're always using the latest technology.

booking can be serviced and modified post-booking, and if results can appear rapidly on their online booking tools and mobile apps. Level 4 certification relates to the standards around post-booking servicing and performance and is something that Amadeus had long advocated was necessary to make NDC work across the industry.

These milestones reflect Amadeus' ongoing commitment to driving NDC forward through our NDC [X] program and to helping airlines and travel agencies deliver more personalized and differentiated travel experiences.

The evolution of the Amadeus Travel Platform is an extensive, phased project, but we're taking an agile approach to deliver practical solutions faster. The first results of our development and integration efforts have already been launched. We're committed to making the whole vision a reality in the near future – future-proofing our platform, our business and the businesses of our customers.

## Retail travel agencies

In an era where consumers are seeking the best customer experience possible, the time has come to “rewire” retail travel agencies so they can provide a 360-degree experience to travelers worldwide.

In 2019 we continued to focus on Amadeus' Live Travel Space to support collaboration among all players and create growth for our retail travel agency customers. The Amadeus Travel Platform continues to be a key component for our various retail customers: consolidators and networks, small to medium-sized travel agencies, key accounts and tour operators.

Retail travel agencies of the future need to offer a new agency experience. It's not just about selling the holiday. Agents need to be on the whole journey with the customer – from pre-trip, to during-trip, to post-trip. It's about designing a customer experience that is collaborative and creative. To do this, retail travel agencies must embrace technology. For example, virtual reality, augmented reality and interactive technologies can inspire and delight. Machine intelligence and natural language processing can provide a unique and more personalized service. Price comparison engines, intelligent algorithms and deep search tools make it possible to tailor the perfect trip for every traveler. Retail travelers want to be engaged and delighted, and retail travel agencies play a significant part in that.

Ultimately, if retail travel agencies want to deliver a world-class customer experience that evolves with consumer trends and needs, they must embrace new technologies and choose the right technology partner. A good mix of online and offline combined with the human touch could launch these agencies to new heights in just a few years' time.

## Online travel companies

2019 marks another year of record growth for online travel – four times that of offline travel. By 2022, online is expected to become the dominant channel for purchasing travel across the world.<sup>5</sup>

Amadeus is proud to have played a part in this growth, steadily outperforming the industry's 1.5% growth with 4.8% growth throughout 2019.

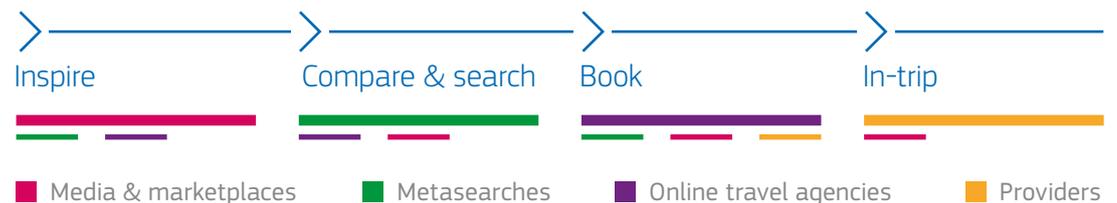
The travel industry is undergoing rapid transformation. Rather than taking place over time, the shifts in dynamics are converging all at once. This is particularly true in the online travel space, where new customer needs and trends are changing the landscape and disrupting the way travelers search, compare and book travel. These include:

- \_ Mobile-first transitioning to mobile-only when booking travel or making other transactions
- \_ Lack of traveler loyalty leading to higher acquisition costs
- \_ New online travel entrants
- \_ Growing usage and relevance of “super apps”
- \_ New media business models and technology

Online travel business models are blurring, with players expanding across more phases of the traveler journey. Metasearch companies like Skyscanner are growing their direct bookings (by three-digit percentage points), moving further into the online travel agency space. Travel providers such as airlines are striving to become retailers and drive more bookings to their websites. And marketplaces like Google and Facebook are expanding from the inspiration phase of the traveler journey to becoming an assisted booker – a one-stop search, booking and payment site that provides an uninterrupted traveler shopping flow on behalf of travel providers.

## Online Travel business models are blurring

Players are expanding across more phases of the traveler journey



<sup>5</sup> Source: Pocuswright (June 2019). Phocal Point: Global Market Sizing.

“Having worked with Amadeus for many years, we know the value they bring and we look forward to collaborating further to provide the best possible experience to our customers, which now includes NDC content.”

*John Mangelaars*  
CEO, Travix

“Amadeus stands out a lot in terms of openness and willingness to explore new innovation projects with us. That’s something we treasure, because being an online travel agency, technology competitiveness and competitive advantage is extremely important for us.”

*Chee Teong Ooi*  
Senior Director, International Flight Business, Trip.com

We’re adapting to this market change by adjusting our business and extending our customer base to media companies and marketplaces. We’re also embracing new business models to support our customers’ business growth through digital advertising, referral and assisted booking flows, and NDC.

As a driver customer of our NDC [X] program, Travix is an example of a global online travel agency that is gaining momentum with live NDC bookings in several markets using Amadeus’ new NDC-enabled Web Services solution.

Travelers and online travel players in Asia and in particular China are also hugely influential, evolving online travel as we know it today and currently serving as the nexus of innovation, new trends and new economic power. Amadeus works closely with these innovators and has a strong foothold in this region of the world.

Our customers span from mega online travel agencies like Expedia Group, Trip.com and Booking.com, to multinational companies like Fareportal, eDreams ODIGEO and Travix. We also work with smaller online travel agencies and start-ups like PerfectStay and partner with search providers specializing in online travel like Kayak, Skyscanner and Venture Republic, as well as major players like Google, Facebook and WeChat.

Collaboration is key. The next journey for us, together with our online travel partners, is to work with new trading models beyond the global distribution system travel agency retail booking. We want to deliver new and profitable ways to innovate, differentiate and enhance traveler experiences, and add value to our online customers’ business.

## Business travel agencies

Across industries and the world, business travel makes business happen. Whether it’s building customer relationships, bringing work groups together to strengthen an organizational culture, or networking at an industry conference, face-to-face interaction makes a difference.

While digital technologies continue to transform the global business travel landscape, corporations continue to rely on business travel agencies to meet key business objectives – like optimizing travel spend with access to the best content at the best value; delivering great service and smooth experiences for travelers; and supporting duty of care responsibilities. Business travel agencies are increasingly turning to Amadeus to fulfill these demands and meet their own bottom-line objectives to optimize revenue and costs.

With local market presence and a global mindset, our team of business travel experts focuses on driving success for business travel agencies. We combine this expertise with leading technology to deliver the best portfolio of business travel solutions.

At the heart of our solutions is the Amadeus Travel Platform, seamlessly integrating multiple sources to deliver the best travel options through multiple channels and devices, all while ensuring efficient end-to-end workflow for business travel agencies. In 2019 we announced the integration of NDC content with shopping, booking, payment and servicing capabilities available both via the Amadeus Travel API and through Amadeus Selling Platform Connect. These are significant milestones toward making NDC content more broadly available through corporate booking tools, mobile services and professional agency interfaces. With the participation of leading business travel brands like American Express GBT, BCD Travel, CWT and Flight Centre in the Amadeus NDC [X] program, we will focus on expanding our leadership position in this critical area.

Leading airlines and other travel providers also turn to Amadeus to provide efficient reach to business travel agencies, which, according to our estimations, delivered yields that in 2019 were significantly higher on average than airline direct sales’ yields.

We combine leading content with advanced capabilities to help business travel agencies optimize their revenue per transaction. Our multi-source, multi-rep hotel offering is a prime example. Agents can quickly compare rates and commissions from multiple sources, offering business travelers the best value while securing the best margin available on each booking.

Our global team of business consultants also combine their expertise with Amadeus solutions to help agencies increase productivity and reduce their operating costs. We do this by automating core processes, improving IT flows, providing greater self-service options and improving agent productivity.

As we continue to grow our global footprint in the business travel space, the industry has taken note. In 2019 we were honored to receive numerous awards, including TTG’s Technology Provider of the Year and *The Beat* Readers’ Choice for Most Admired Travel Technology Company.

As we look to 2020 and beyond, business travel spend is projected to continue to grow at a healthy pace. And we’re well positioned to capitalize on this growth opportunity thanks to our unwavering commitment to placing our customers – corporations, the business travel agencies that serve them, and the business travelers themselves – at the center of everything we do.

## Corporations

Business travel is expected to reach USD 1.7 trillion by 2022<sup>6</sup> as corporations continue to get their teams out into the field to sell effectively and provide great customer service.

Their travelers expect the best options and flexibility to adapt to their changing schedules, exactly as when they book for leisure. Of course, they want to feel safe and be able to submit their expenses on the go without wasting valuable time.

And approvers, auditors and accountants want to minimize the time spent on manual, low-value-added tasks as well as have enough visibility on Travel & Expense (T&E) to make the right decisions.

At Amadeus we serve over 16,000 corporations worldwide and work with them to develop solutions that can help optimize their T&E budgets while taking care of their staff. We center our investment efforts around:



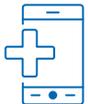
### 1. Our platform

Corporations demand a flexible, scalable and agile platform that adapts to their changing business requirements. We also invest heavily in the quality of our solutions and in making their implementation easier and faster.



### 2. Travel content

It's always our aim to give corporations rich, comprehensive and unbiased content. This includes air (full-service and low-cost carriers, ancillary services and fare families), hotel, car, transfer and the most comprehensive rail content in the market from any source (Amadeus or other global distribution systems, Vendor Direct Access, NDC and aggregators).



### 3. Portfolio features

We keep developing our portfolio to meet the needs of both corporations and travelers:

- **Amadeus cytric Travel** helps define a company's travel policy and process flows, all powered by best-in-class air fare search tools including post-booking ones (like Ticket Changer).
- **Amadeus cytric Expense** allows travelers to capture their expenses using their cell phones with the use of AI in the background. For instance, as recently

approved by the Spanish Tax Agency, Spanish corporate travelers don't have to keep physical paper receipts if they can be digitalized. Cytric allows this, preserving the legal value of receipts.

- **Amadeus Mobile Messenger** helps corporations locate and communicate with their people, whether or not they're traveling. Thanks to our acquisition of Charter Solutions after a long relationship, we now have full ownership of this duty of care solution and full control of its future development.
- We keep increasing the number of sources that **Amadeus Corporate Insight** links to for better and actionable intelligence (including traveler data), so that business travelers can optimize their travel spend.



### 4. User experience

We're working hard to ensure that our user interfaces are friendly and responsive and that the richest content is clearly displayed, all powered by strong merchandizing fare search capabilities in the background.



### 5. Exploration

We're committed to generating disruptive and sustainable innovation to build a better end-to-end trip experience. And because we connect entire travel ecosystems – from airlines and hotels to airports and rail companies – we're well positioned to accompany corporations on this journey.

## 2019 strategic investment on corporate solutions

In our efforts to take friction out of travel, we're also joining forces with other partners to harness and combine our technological capabilities. We've partnered with KPMG to allow employees to book their travel and receive in parallel immigration, tax and regulatory assessments and assistance throughout their journeys. We're also in a partnership with business-spend software company Coupa for a streamlined, consumer-like experience to manage T&E all in one platform and maximize the value of every dollar spent.

With our continued investment in R&D and our presence in over 190 markets, what we offer is simply smarter business travel for corporations worldwide. We are enabling them to manage T&E in a holistic way across the entire booking and expense process, and to create better journeys for their travelers.

<sup>6</sup> Source: <https://www.businesstravelnews.com/Global/Global-Business-Travel-Spend-Will-Reach-17T-by-2022>.

## Mobile

### Travel is mobile

In a fiercely competitive travel app marketplace,<sup>7</sup> Amadeus has developed a flexible and reliable mobile platform, putting the traveler’s needs first while leveraging our core technologies. Today, over 80 of the world’s top travel brands entrust their mobile strategy to Amadeus and power their travel apps through our Amadeus Mobile Solutions.

Our mobile success is further enhanced by working collaboratively within the travel industry. We continue to cultivate the industry’s best and brightest partners through the Amadeus Mobile COLLECTIVE. More than 20 top travel brands partner with us to create seamless travel experiences by providing a wide range of high-quality ancillary services at travelers’ fingertips – including tours and activities, parking, airport lounges, and taxi and transfer. Our partnership community also includes some of the best technical capabilities in the mobile arena. We’re committed to giving our customers the best mobile marketing and analytics capabilities, enabling them to deliver data-driven and more personalized servicing to their travelers.



### The world’s leading travel app

Amadeus CheckMyTrip goes beyond typical itinerary management apps, making travelers feel like locals through discovery of destination amenities before and during their trips. CheckMyTrip offers nearly a dozen pre-arranged transfer services in addition to a full range of options for airport lounges, parking, and tours and activities. Nearly 2.5 million trips are added each month to CheckMyTrip accounts, and travelers consistently give our app high praise for its ease of use, proactive notifications and different functions thanks to a range of trip tools. Our iOS and Android app versions maintain a 4.7 and 4.5 star rating respectively.

Our innovative efforts were recognized for the second year in a row when we were honored with the World’s Leading Travel App Award in the 2019 World Travel Awards. We achieved this recognition of excellence through persistent commitment and collaboration.

Our mobile success is built on the Amadeus Live Travel Space and its open, dynamic and connected approach. CheckMyTrip and our larger Amadeus Mobile Solutions are the gateways for buyers, providers and technology partners to continue thriving in the

<sup>7</sup> According to App Annie, one of the world’s leading app store benchmarking sources, travelers download more than 1 billion travel apps annually.

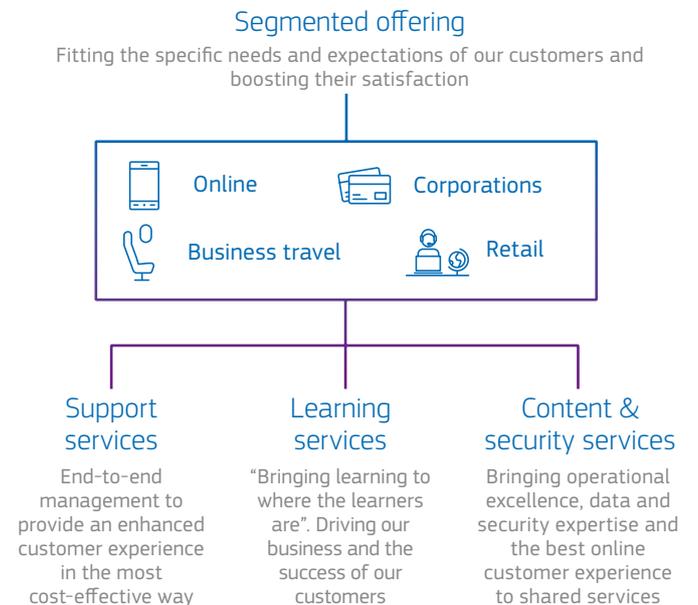
global travel economy. Travel is becoming increasingly mobile, and mobile technologies are rapidly evolving – chatbots, messengers, voice assistants, artificial intelligence and machine learning, and 5G rollouts worldwide will change the landscape again. We continue to gather insights from CheckMyTrip and to work diligently alongside our partners and customers to meet the opportunities and challenges these new technologies bring.

## Customer experience for travel channels

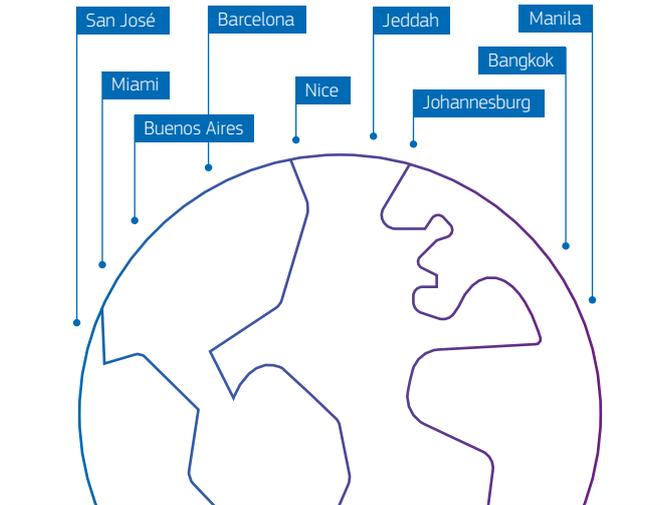
### Customer service

We develop and deliver a wide range of services to maximize our customers’ efficiency, business continuity and performance. In the customer service sphere, we strive to serve each of our travel agency and corporation customers in the best possible way and address their specific needs.

### Overall offering



## Main customer service locations



## Evolving the way we support customers

Our global and extensive network of experts provides functional and technical support in different languages across many markets. In 2019 we scored consistently above 90% in terms of customer satisfaction – proof of our dedication to our customers' business continuity.

From the insights we've gathered, we know today's support needs to be simple, interactive and personal. That's why in 2019 we introduced a new support flow to guide our customers through all available support channels and recommend the best options for their needs.

## Learning going digital

To help customers make the best possible use of our technology, Amadeus delivers a blend of online, offline and instructor-led learning solutions in multiple languages.

We're enhancing our approach to learning by capitalizing on digital technologies and the power of our online presence. We bring learning to our customers wherever they are, 24/7, via micro-learning content on our global online learning platform, Amadeus Learning Universe, available via Amadeus Service Hub, our online customer service portal.

## Amanda

We want to make the whole process of getting answers easier for customers. That's why a year ago we launched our chatbot Amanda – open to all agencies 24/7. This dynamic chatbot can answer a wide range of questions, using a chat window at the bottom right-hand side of the screen in Amadeus Selling Platform Connect.



Watch our video about our approach to customer support experience



Visit the Amadeus Service Hub, our customer service portal



Read more about our chatbot Amanda

## Amanda chatbot in numbers\*



1,873

No. of questions she answers from travel agents in a day.



90

No. of countries where Amanda is available and already chatting up a storm.



24/7

Can provide immediate assistance through the Amadeus Service Hub and other Amadeus solutions every day, all day.



4

Amanda currently speaks English, Spanish, Brazilian Portuguese and French. She's learning Italian, German, and traditional and simplified Chinese.



23,389

No. of chat sessions per month in 2019.



9,779

Average monthly active users in 2019.

\* Figures as of December 2019.



## Customer loyalty

We welcome customer feedback, as it helps us evolve as a company and prepare to support our customers for future industry challenges.

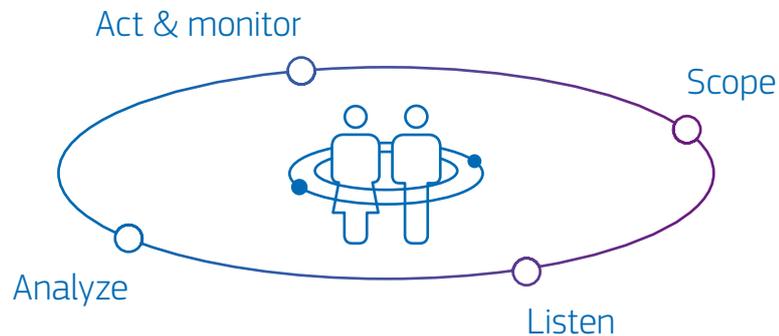
Our Customer Experience program collects the voice of our customers to identify from their perspective areas for improvement and areas of excellence.

It monitors customer loyalty through multiple sources and channels to transform customer feedback into insights. All teams across Amadeus – whether or not on the front line – have a role to play and are exposed to that feedback to improve our performance.

This helps us continually revisit our way of doing things and focus on the areas that are a priority for our customers. This feedback is also key to defining Amadeus' strategic investments.

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A simple and effective methodology to put our customers at the heart of our activities



## Voice of the customer in 2019

In 2019 we once again carried out both quantitative and qualitative initiatives with travel sellers and corporations to gather their feedback and share it across Amadeus.

Customer journey mapping methodology is part of our yearly activities, where together with our customers we discuss their internal processes and interaction with Amadeus. It gives a unique space to openly address in detail what works and what doesn't.

On the quantitative side, we received feedback from over 80,000 customers worldwide. This gave our customer experience teams and the rest of Amadeus key information across multiple touchpoints.

After we analyzed the feedback, we developed a detailed action plan. Some actions are having an immediate positive effect on our customer's experience, while others have a longer time frame and require further adjustments.

Regarding customers that have contacted Amadeus for support, once they get assistance they receive a request to fill out a feedback survey. If the feedback does not reflect a satisfied customer, an alert is triggered to the entities in charge of taking the following actions as relevant: improving internal processes, training staff, providing feedback to the product teams and contacting the customer back.

As we incorporate and integrate other sources of information, we aim to reduce the length of our surveys so less time is needed to respond to them.

## Industry growth

In 2019 the travel agency air booking industry declined by 0.9% (excluding India, it remained broadly flat). North America and Central, Eastern and Southern Europe were the growing regions. Latin America had a broadly stable performance in the period. In contrast, Western Europe, Asia-Pacific and Middle East and Africa showed a contraction. The Western European industry was impacted by macroeconomic effects, bankruptcies and strikes (particularly affecting markets such as the United Kingdom, Germany, France and Italy). The industry in Asia-Pacific was impacted by a number of effects, including the India situation and the fires in Australia. Middle East and Africa contracted facing adverse geopolitical tension in several countries.

## Amadeus travel agency bookings

Amadeus non-air bookings increased by 5.1% in 2019 versus the prior year, reaching 66.2 millions bookings. This growth was driven by several products, including hotel, rail and car bookings.

Amadeus air bookings remained broadly stable versus the previous year. Excluding the Indian market, Amadeus' global air bookings grew by 2.7%. Our bookings outperformed the industry evolution, supported by market share expansion across regions, except for Asia-Pacific. Our bookings reported high growth in Latin America, Central, Eastern and Southern Europe and, most notably, in North America. Our bookings in Western Europe reported growth, on the back of robust market share gains and despite the industry contraction (affected by macroeconomic effects, bankruptcies and strikes). Our bookings in Asia-Pacific and Middle East and Africa, impacted by the industry booking decline, showed a contraction. Asia-Pacific bookings were also impacted by Air India's cancellation of our distribution agreement at the end of 2018,<sup>9</sup> and by the cessation of operations of Jet Airways in April 2019.

## Amadeus air travel agency bookings by region

(Figures in millions)

	2018	2019	Change
Western Europe	191.7	193.4	0.9%
North America	108.1	118.6	9.7%
Asia-Pacific	121.2	103.9	(14.3%)
Middle East and Africa	71.9	69.8	(2.9%)
Central, Eastern and Southern Europe	48.9	53.2	8.7%
Latin America	38.3	41.4	8.1%
<b>Total</b>	<b>580.2</b>	<b>580.4</b>	<b>0.0%</b>



<sup>9</sup> A new distribution agreement between Amadeus and Air India was announced on January 6, 2020.

# Key Distribution highlights in 2019

During 2019,  
we signed

47

new contracts  
or renewals  
of content  
agreements with  
airlines, including  
EasyJet and Thai  
Lion Air.

Subscribers  
to Amadeus'  
inventory  
can access

110+

low-cost and  
hybrid carriers'  
content worldwide.

We made important progress in our efforts to make NDC a reality for the industry. We launched new solutions and new contracts with airlines and travel sellers.

- We announced that FCM Travel Solutions, the flagship global business travel division of Flight Centre Travel Group, would start using the new NDC-enabled Amadeus Selling Platform Connect interface, and will make NDC bookings through it.
- We deepened our partnership with United Airlines by developing, testing and bringing to market new content offerings, such as United Airlines' new Corporate Bundles and Dynamic Bundled Fares.
- American Express Global Business Travel and American Airlines, both partners of our NDC [X] program, processed live bookings using American's NDC-enabled content through the new Amadeus Travel API.

New distribution agreement with Air India by which international travel sellers will have access to the full range of Air India's content, both domestic and international.



Southwest announced a distribution agreement as a result of which travel managers and travel management companies will be able to book, change and modify reservations through the Amadeus Travel Platform.

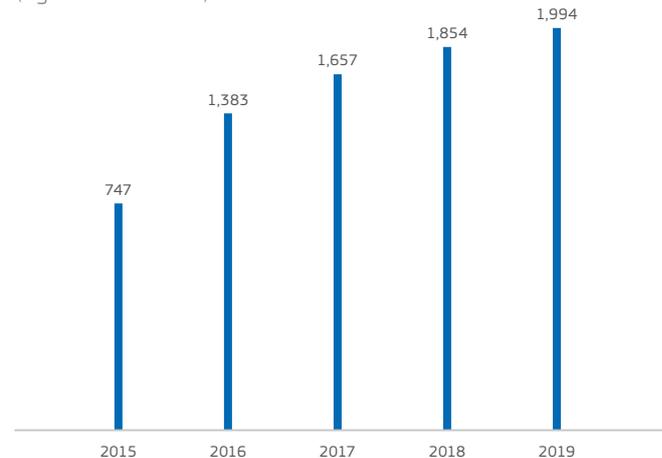
The trend toward increased personalization remains strong within the travel industry, as travelers demand more tailored offers and services. Our merchandizing solutions for the travel agency channel are one of the options we offer our customers to meet this demand.

During 2019, 24 airlines signed up for Amadeus Fare Families (of which 11 have implemented the solution) and 10 contracted Amadeus Airline Ancillary Services (of which 8 have implemented it).

## 2.3 Airline IT



### Passengers boarded\* (figures in millions)



\* Actual passengers boarded onto flights operated by airlines using at least the Amadeus Altéa Reservation and Inventory modules or New Skies.

## Supporting airlines in their digital and retail transformation

An industry-wide transformation is unfolding as technology continues to change the way consumers and brands interact. Today's leading online players (e.g. Amazon or Netflix) offer simple, intuitive, personalized and customer-centric retailing experiences. They have set the bar, and consumers now expect similar experiences in all sectors, including travel.

Consumers are also getting more empowered. Digitally savvy, they search for inspiration across multiple media platforms, expect service on demand and are more vocal than ever before. Airlines need to innovate and create to keep up with changing consumer expectations and behaviors, while securing efficient and profitable growth. This has hastened the need for airlines to adapt their customer engagement strategies and technology infrastructure.

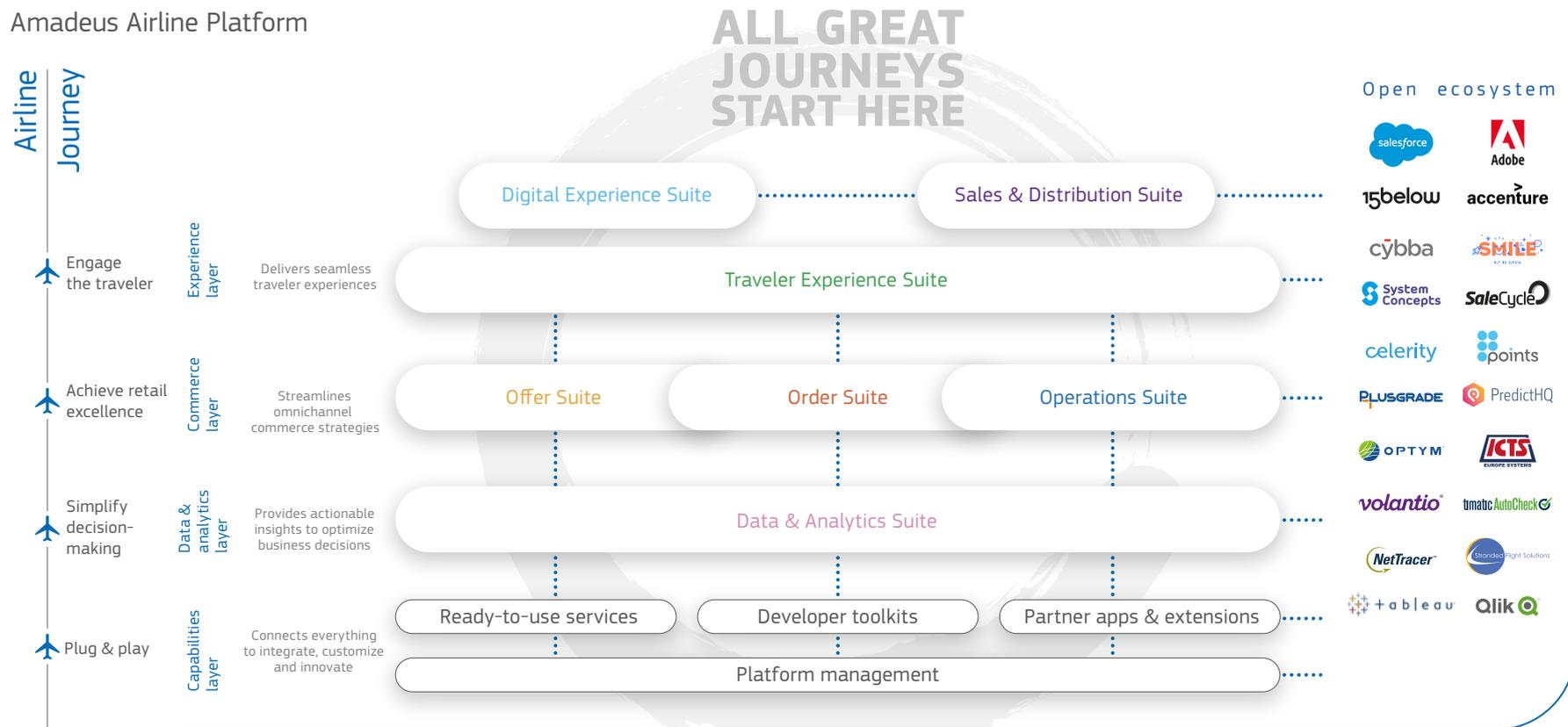
We're evolving our mindset and technology to better support airlines in their retail transformation, so they can deliver seamless and enriched traveler experiences across channels, touchpoints and the entire traveler life cycle. Central to this strategy is the Amadeus Airline Platform – an open, data-driven architecture designed for airlines to harness the full power of technology to inspire, convert and delight travelers. We're forging best-in-class partnerships with 20 partners, such as large global technology and service companies, start-ups and payment providers, to accelerate innovation for airlines and complement our capabilities.

We want our airline customers to achieve their goals, grow and be best in class. Amadeus' open and agile technology, together with our collaborative spirit and industry experience, means we can play a lead role in our industry's digital transformation. And with a worldwide presence in over 190 markets, we can support our customers both globally and locally.

Today, it's a combination of companies working together that can effectively improve the traveler experience. That's why, with our deep knowledge of the airline industry and travel customers, we've partnered with Adobe, the global leader in digital experience and digital media solutions, to help airlines make, manage, measure and monetize their content across every channel and screen. Working together with airlines such as Malaysia Airlines, Amadeus and Adobe have helped airlines leverage user data and assets to create memorable experiences for travelers throughout the entire journey. In addition, Amadeus and Salesforce have partnered to provide further value to airlines. The integration of their platforms will allow airlines to benefit from a better understanding of traveler needs and requirements, thanks to shared insights and data, for example to tackle flight disruptions.

Moving forward, our focus for 2020 and beyond will be to continue to sell our core passenger service systems, Amadeus Altéa® and Navitaire New Skies®. We also want to invest substantially in offer management and the platform-enablement of our solutions in order to support industry simplification. Additionally, we will continue to develop our partner ecosystem, so we can keep supporting our customers in their retail and digital transformation.

## Amadeus Airline Platform



## Amadeus Airline Platform

Our open platform gives all types of airlines flexibility to work even closer with partners and developers to fast-track innovation. Airlines can maximize their use of data, so they can deliver the services most valued by travelers at every touchpoint across their journey.

With our solutions portfolio moving toward a platform approach, airlines will have direct access to self-service functionalities. Their day-to-day will be easier to manage, allowing them to integrate technologies and services from Amadeus or other partners and developers.

The platform embraces industry initiatives so that airlines can simplify their business processes, innovate and deliver seamless traveler experiences.

All Amadeus airline solutions will be platform-enabled, meaning they will follow our platform principles: simple, agile, open.

### 1. Amadeus Offer Suite

Offer optimization – what to sell, when to sell it and at what price – has become strategic for airline growth and profitability. Amadeus Offer Suite enables airlines to optimize the way they create, manage and tailor the right end-to-end offer to sell it across all relevant channels.

## 2. Amadeus Order Suite

Amadeus Order Suite helps airlines process and service orders efficiently, ensuring accurate fulfillment, delivery, reconciliation and accounting. Now enabled for the International Air Transport Association (IATA)'s New Distribution Capability (NDC) and ONE Order programs,<sup>9</sup> Amadeus Order leverages our industry knowledge to support airlines with their retail transformation.

## 3. Amadeus Digital Experience Suite

Amadeus Digital Experience Suite enables airlines to engage directly with their customers to create a personalized experience across the whole journey. Airlines can benefit from a next-level online retailing engine that transforms core passenger solutions into frictionless experiences using any digital touchpoint.

## 4. Amadeus Data & Analytics Suite

Amadeus Data & Analytics Suite supports airlines in their data-driven transformation. This includes enabling airlines to better understand market dynamics, gather industry intelligence and obtain competitive insights. It also provides airlines with more business and operational agility to automate decisions and react instantly to upcoming opportunities or threats.

## 5. Amadeus Traveler Experience Suite

Amadeus Traveler Experience Suite allows airlines to obtain customer insight and intelligence to enhance the customer experience of all business processes. It delivers solutions that drive customer acquisition and retention to create enriched, personalized experiences across the traveler life cycle, while maximizing the business performance of airlines' loyalty programs.

## 6. Amadeus Operations Suite

Amadeus Operations Suite gives airlines key capabilities to efficiently manage their passenger service, aircraft and airport operations. It optimizes their operational efficiency to help them deliver a seamless travel experience, achieve operational excellence and regain control during disruptions.

## 7. Amadeus Sales & Distribution Suite

Amadeus Sales & Distribution Suite supports airline growth by connecting airline offers like flight fares and ancillaries to travelers through third parties like content aggregators, metasearch sites, online travel agencies, websites and corporations. In this digital era, sales and distribution channels are undergoing major

<sup>9</sup> ONE Order is the concept of a single customer order record holding all data elements required for order fulfilment across the air travel cycle – like customer data, order items, payment and billing information, and fulfilment data and status.

transformation and this suite allows airlines to maximize the best channel mix, no matter their business model and strategy, to secure future growth and profitability.

## Creating a platform for open innovation

Our open platform gives airlines access to an innovation ecosystem, allowing experimentation, collaboration and integration. With each solution we bring to the Amadeus platform, we give our customers greater agility to integrate and orchestrate technologies and services from Amadeus or other partners/developers, such as Salesforce or Adobe. In parallel, our developer toolkits give developers access to new capabilities to innovate and enrich customer solutions.

Hackathons prove that real innovation happens only in partnership with customers and the industry. Our various hackathons over the past years have allowed our customers to test and build on existing solutions to enhance their digital channels. We pride ourselves on our partnerships, working together closely to drive innovation and the implementation of cutting-edge technology to solve practical issues. For example, the Accenture Amadeus Alliance has been working to create tangible business outcomes to help airlines transform the way they do business. To create a more passenger-focused approach to managing disruption at Hong Kong International Airport, Cathay Pacific worked with Amadeus, Accenture and 15below on a solution designed to dramatically reduce the time it takes to handle a disruption. Results showed that 50 flights and 8,000 passengers can be handled in 40 minutes, compared to days or even a week in the past when the hub was closed due to a typhoon.

## Bringing simplicity to airline processes and enhancing the traveler experience

The travel industry's technology infrastructure is complex; we simplify it. Working with top-tier partners, the Amadeus Airline Platform simplifies and streamlines, to remove complexity for airlines so they can focus on managing and growing their business, innovating, and delivering great traveler experiences.

We fully embrace standards such as IATA's NDC, which will help airlines grow and simplify processes. With our NDC [X] program, we've partnered with leading airlines to drive the industrialization of NDC and ensure its success for all travel players.

Simplifying airline retail transformation is made easy thanks to the commerce layer of our platform, which contains three core airline business capabilities: offer management, order management and operations. Additionally, Amadeus Developer Studios allows developers to access Amadeus Airline Platform's full capabilities and build on top of it, thus simplifying code creation, testing and innovation.

## Lufthansa improves the online shopping experience and enjoy an uplift in sales

### Challenge

Lufthansa wanted to improve the online shopping experience for their customers. The airline group wanted to display all airline fares across all routes for its carriers. This meant a more inclusive and responsive shopping solution that would display cross-cabin upsell, the airline's group offers, and recommendations on compatible inbound and outbound route fares.

### How did Amadeus support the airline?

Lufthansa chose Amadeus Flex Pricer Premium Mode as a solution for its continental routes on the desktop and mobile sites. This included unlimited partner offers on the shopping screen, return up to 10 branded fare options and the display of as many as 14 inbound/outbound travel options.

### Results

Positive results were achieved across the following key areas:

- Lufthansa compared business-class coupons sold before and after the introduction of Amadeus Flex Pricer Premium Mode and found an overall increase in business-class upsell of 59%.
- The airline also increased its share of mixed cabin bookings (flights with one leg in economy, the other in business) from 0.47% to 1.24%, representing an uplift of over 160%.
- The airline was able to display more fare families and travel options, which created instant upsell opportunities as passengers can see the costs and benefits of upgrading to a higher fare class.

## Malaysia Airlines provides a personalized experience by delivering relevant ancillary offers to its passengers

### Challenge

Malaysia Airlines migrated to Amadeus Altéa Passenger Service System in 2017 to manage and improve its core passenger processes including reservations, inventory and departure control, which was the start of an incredible transformation journey. In a world where travelers are spoiled for choice, the airline's goal was to provide a more personalized experience for passengers, beginning with the shopping experience. Today's passengers want to be able to select ancillary services<sup>10</sup> that are relevant to their needs and preferences, whether it's extra legroom, lounge access or excess baggage. The airline also wanted to ensure that its ancillary offering enhanced the experience as well as upheld the values of Malaysian hospitality.

<sup>10</sup> Additional services like extra legroom, lounge access, extra luggage or seat upgrades.

### How did Amadeus support the airline?

With our Amadeus Anytime Merchandizing solution, which allows airline marketers to effectively define, deploy, monitor and adjust the airline merchandizing strategy in real time, we helped Malaysia Airlines develop a successful strategy. The aim was to meet passengers' needs for new ancillary services and discounted unbundled packs<sup>11</sup> delivered through targeted merchandizing techniques.

### Results

Malaysia Airlines deployed different merchandizing techniques, including promotion and advertising. This allowed the airline to gain full control of its offer and increase ancillary revenues by 90% two months after implementing the Amadeus Anytime Merchandizing solution.

<sup>11</sup> Services to travelers not combined in one service package.

## Co-creating with airlines with an agile mindset

Amadeus Airline Platform breaks down silos to work even closer with our customers and partners. It also gives customers the flexibility to work with developers and other third parties. Data is key to making more informed decisions, managing business more effectively and knowing customers better, so that the products and services that travelers value most can be delivered to them at every stage of their journey. Amadeus Airline Platform allows airlines to maximize this use of data, which translates into shorter delivery cycles, more experimentation, faster learning and lower innovation costs. This way, our customers can create value and deploy new technologies quicker than ever before, deploying at scale.

Working with high-growth, innovative airlines inspires us to deliver solutions that underpin their continued development and evolution. Using our unrivaled market knowledge and technology expertise, we seek to support even the most technically advanced and entrepreneurial of airlines.

## Singapore Airlines improves customer recommendations

### Challenge

Singapore Airlines needed to upgrade its revenue management system to respond to evolving consumer behavior and address a decline in revenues caused by outdated assumptions. The vision was to provide the airline with faster, more accurate and intelligent recommendations on customer-centric pricing and packaging.

### How did Amadeus support the airline?

We worked with our client to deploy a new state-of-the-art revenue management system solution. It enabled the airline to match demand and supply at the most relevant fares. This way, the airline could deliver the right fare to the right customer at the right time.

At the same time, Singapore Airlines also invested in strengthening the expertise of its revenue management professionals. This allowed us to identify various organizational processes and revenue optimization areas for the airline.

### Results

Since implementing the solution, there has been a marked improvement in booking class mix across all cabins. And the new revenue management system has delivered Revenue per Available Seat Kilometer (RASK) improvement year-on-year in line with the airline's goals.

## Hackathons bring airlines together to innovate

At Amadeus, innovation has been at the heart of our business for over 30 years.

We believe that open systems will create value for airlines by enabling collaborative partnerships on innovation – ensuring transparency, choice and simplicity for travelers.

To compete and grow, airlines must provide personalized and differentiated experiences to their customers on the devices and channels where they interact and purchase.

We held the Amadeus Airlines Hackathon with seven airlines in Singapore in April 2019. Its key focus was to gather our airline customers to share and learn modern retailing ideas from each other. We also received direct input on the development of solutions based on the airlines' vision for retail transformation in their digital channels. Within just three days, the airlines and Amadeus' developers co-created working prototypes on the Amadeus Digital Experience suite.

Korean Air, winner of the hackathon, came up with a chatbot (called "Chat & Book") with the ability to integrate airline bookings into digital chat groups where travelers can complete their entire booking, from inspiration to payment.

Air Astana was recognized as most innovative for its "Social Fare" app, allowing social volume-based discounting that encourages customers to share certain fares with friends.

With its "MH Connect" app, Malaysia Airlines integrated a chatbot with WhatsApp that notifies the traveler when it's time to check in. It then asks if they need to add any ancillary services.

In a subsequent Amadeus hackathon in October 2019, the winner was Scandinavian Airlines (SAS). Over two and a half days, nine apps were developed with the aim of rethinking the booking process toward improving the travel experience. SAS's aim was to rethink the booking process toward a more eco-friendly travel experience. Icelandair was runner up, Flybe won the Judges' Technical Award and China Air took home the Crowd Prize.

These events consistently prove how quickly real-world applications can be created and deployed with customers in extremely short timescales.

## Customer experience for airlines

### Committed to excellent customer service and support

One of Amadeus' core values is to put our customers at the center of everything we do across every stage of the customer journey.

**Our standard implementation services:** Airlines put a lot of trust in us when they adopt our technology solutions at the heart of their business. Our skilled experts guide customers through the implementation of Amadeus solutions, ensuring a smooth and successful onboarding to operational mode.

**Our learning services:** Our learning portfolio delivers an effective blend of online, offline and instructor-led learning for Amadeus solutions, in varied formats such as:

- Self-paced e-learning
- Videos
- Instructor-led virtual training
- Webinars
- Classroom training
- User guides
- Online help

**Our support services** are:

- Proactive – monitoring systems and preventing situations from developing
- Automated – processing specific requests for fast and consistent resolution
- Digitalized – such as our Amanda chatbot, ↪ based on natural language and artificial intelligence, introduced to pilot airline customers in 2019
- Personal – thanks to a strong local, regional and global presence

We provide three levels of expertise to handle incidents and issues:

- Level 1: first-contact support. Airlines can opt for an in-house helpdesk or outsource this to us.
- Level 2: specialized support. Delivered globally by Amadeus Service Management Centers located in Bangalore, Dallas,

Dubai, London, Istanbul, Manila, Miami, Nice, Sydney and Tokyo. Up to 70% of incidents are resolved at this level.

- Level 3: guru support. Solving complex issues in minimum time by engaging Amadeus' experts in R&D, product and content management, security and operations.

**Our content management and security services**, in addition to providing Level 3 support, ensure the quality of the data fed into the Amadeus system from external data providers, such as IATA or the Airline Tariff Publishing Company (ATPCO), and that the data is available to our airline customers 24/7.

### Adding value beyond standard services

We've been delivering value-added consulting and IT services on top of our standard implementation services for the last 15 years.

Today we have a Services offering, integrated into the customer value chain, that is on top of our solutions portfolio. Our goal is to leverage the full value of our solutions by customizing them to support airlines' business across all stages of the customer life cycle.

We offer various services that can be packaged as standalone or as part of longer-term strategic projects.

**Expert Services:** Includes business, functional and technical consulting for complex projects, covering digital transformation, processes and solutions optimization.

**Managed Services:** Includes airlines' outsourced activities such as:

- First-level helpdesk
- Interline electronic ticketing (IET) and codeshare testing with partners
- Data maintenance/management
- Application hosting
- Business process testing (BPT)

**Learning Services:** Includes fully customized training courses and refresher training, learning consulting such as end user training strategies, and documentation and e-learning services.

**Custom Development Services:** Includes the development and implementation of customized features aimed at faster time to market.

**Amadeus Center of Excellence:** For airlines with longer-term and more complex projects, our dedicated Center of Excellence offers different types of customized services on customer premises with local support. We provide a dedicated

↪ See "Customer experience for travel channels," p. 28.

management and governance structure to anticipate the needs of our customers and support their transformation journey in a consistent, flexible and reactive way.

## Investing in our customer relationships

As explained in the Distribution section, our Voice of the Customer Program monitors customer loyalty and evolves to open new feedback sources and channels between customers and Amadeus. ↪ The main purpose of the program is to transform customer feedback into insights that teams across Amadeus will use to improve our performance. This helps us to continually revisit our way of doing things and focus on the areas that are priorities for our customers. This feedback is also key to defining Amadeus' strategic investments.

Customers actively participate in the design of our action plans, and we keep them informed regularly of the progress made. This communication is always carried out face-to-face via our regional teams or the various customer forums we organize throughout the year.

We vary our methodology for gathering feedback and measuring loyalty to adapt to the characteristics of each customer segment and market. The approach includes in-depth sessions with customers, interviews, and relationship and transactional surveys to identify main focus areas in the customer journey and where Amadeus is progressing well.

Our main measure is the Net Promoter Score, and we set targets at the beginning of the year.

There are certain key satisfaction drivers measured across all customer segments:

- \_ Quality and reliability of Amadeus solutions, as a reflection of our focus on R&D
- \_ Our customers' experience of working with Amadeus across the various stages of the customer journey
- \_ Overall relationship with Amadeus, highlighting the engagement and service mindset of our people

## Voice of the Customer in 2019

Our dedicated Customer Insights & Experience team for the Airline Customer unit has the mission of evolving and promoting our Voice of the Customer program, and of generating and transforming feedback into relevant insights used to develop customer journeys and deliver the right experiences. The team's role is to mobilize all Amadeus' workforce to focus on customer expectations and to show customers how their feedback has been used to make demonstrable performance improvements.

In 2019 Amadeus also conducted both quantitative and qualitative surveys with our airline customers. To obtain a 360-degree customer view, we use our Voice of the Customer platform, which allows us to systematically collect and consolidate the feedback from different types of surveys, as well as to speed up communication with teams worldwide.

The Customer Insights & Experience team works very closely with a community of Voice of the Customer champions spread across the globe who are accountable for sharing results and driving action in the different regions.

In our Airline Customer unit, over 200 improvement actions were developed and executed in 2019 based on the findings of our most recent surveys. These improvements were communicated back to our customers in a series of infographics highlighting the main points of feedback that our customers expressed to us and explaining what we've done based on that feedback to meet their expectations.

↪ See "Customer experience for travel channels," p. 28.

## Evolution of passengers boarded

The 7.5% growth in Amadeus passengers boarded resulted from:

- \_ Organic growth of 6.4%.
- \_ The positive impact from customer implementations (including S7 Airlines, Maldivian Airlines, Cyprus Airways and Aeromar in 2018, and Philippine Airlines, Bangkok Airways, Flybe, Air Canada and Air Europa in 2019).
- \_ The negative impact from (i) airline customers ceasing or suspending operations, including Germania and BMI Regional, Avianca Brasil, Avianca Argentina, Thomas Cook UK, Aigle Azur, Adria Airways and XL Airways France, and (ii) the de-migration of LATAM Airlines Brasil from our platform during the second quarter of 2018.

Excluding airlines ceasing or suspending operations, Amadeus passengers boarded grew by 8.5% in the full-year period.

During 2019, 60% of our passengers boarded were generated outside of Europe.

## Passengers boarded by region

(Figures in millions)

	2018	2019	Change
Western Europe	624.3	660.7	5.8%
Asia-Pacific	594.3	645.2	8.6%
North America	247.0	269.9	9.3%
Middle East and Africa	138.1	148.8	7.7%
Central, Eastern and Southern Europe	111.5	137.1	23.0%
Latin America	138.8	132.0	(4.9%)
<b>Total passengers boarded</b>	<b>1,853.9</b>	<b>1,993.7</b>	<b>7.5%</b>



Amadeus offices in London, UK.

# Key Airline IT highlights in 2019

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At the close of 2019,

216

customers had contracted either of the Amadeus Passenger Service Systems (Altéa or New Skies)

208

had implemented them

Etihad Airways contracted [Amadeus Altéa Departure Control System Flight Management](#) to improve productivity, better manage capacity and reduce costs.

Azerbaijan Airlines signed for the full Amadeus Altéa Suite and also for Revenue Management solutions.

Bangkok Airways migrated to Amadeus Altéa. The carrier implemented the Reservation, Inventory, Ticketing and Departure Control modules.

Air Canada completed its migration to the [Amadeus Altéa Reservations and Inventory](#) modules and also implemented [Amadeus Anytime Merchandizing](#) and [Amadeus Customer Experience Management](#). The adoption of these solutions will help the airline to smooth passenger operations, grow brand loyalty and customer satisfaction and increase revenues.

LATAM Airlines Group signed a multi-year agreement to implement two components of the [Amadeus Sky Suite by Optym](#): SkyMAX and SkySYM, enabling LATAM to optimize their flight schedules.

The positive results of this partnership were one of the factors which lead us to acquire Sky Suite from Optym in January 2020. The Amadeus Sky Suite will be further integrated into the Amadeus Airline Platform, including software for network optimization and simulation, frequency and capacity planning, network planning and forecasting, and a flight scheduling development platform.

We have renewed and expanded our longstanding technology partnership with the Lufthansa Group. Through this agreement, Lufthansa, Austrian Airlines, Brussels Airlines, Swiss International Air Lines and Air Dolomiti will continue to rely on the [Amadeus Altéa Passenger Service System](#). Eurowings will continue to rely on [New Skies](#).

In addition, Lufthansa Group has contracted an array of new services which are set to transform the way the airline group serves its customers – both online and at the airport – including shopping solutions, [Amadeus Instant Search](#), [Real-time Ticketing Feed](#), [Amadeus Sales Watcher](#) and [Amadeus Airport Companion App](#).

Qatar Airways signed up for additional functionality to improve its revenue optimization: [Amadeus Altéa Revenue Availability with Active Valuation](#) and [Amadeus Altéa Booking Intelligence](#).

Norwegian signed up for [Amadeus Passenger Recovery](#).

All Nippon Airways implemented [Amadeus Airline Cloud Availability](#), helping to show consistent offers across all sales channels and distributing content dynamically in a cost-effective way.

Our upselling and cross-selling efforts continued during 2019. All Nippon Airways announced that it had implemented [Amadeus Airline Cloud Availability](#). The carrier is now able to boost customer conversion because its offers are consistent across all sales channels, while having a cost-effective way to distribute content dynamically.

## 2.4 Hospitality



Hospitality remains a large growth area for Amadeus. From strategic R&D investments and enterprise deals, to our 2018 acquisition of TravelClick, we're positioning ourselves as the leading technology provider for the hospitality industry.

We serve all customer segments, from large enterprise chains down to small independent properties, in more than 175 countries. We use data, innovation and the expertise of our people to create transformative technologies that enable frictionless guest journeys.

With global hospitality demand surging, hoteliers are looking for new ways to differentiate themselves and win the hearts and wallets of consumers in a competitive market. Between hotel brands, boutique properties, resorts and alternative accommodation, the unprecedented level of choice is raising travelers' expectations. They crave unique, authentic and tailored experiences – not only during the shopping and booking phase, but on site and post-trip as well.

To enrich every stage of the guest journey, we offer a platform of capabilities that adapts to every customer's needs to drive demand,

profitability and guest loyalty – from distribution and marketing, to hotel and guest management, to business insight. We provide solutions to more than 49,000 unique properties around the world, helping the hospitality industry run smoothly and enabling our partners to create memorable guest experiences.

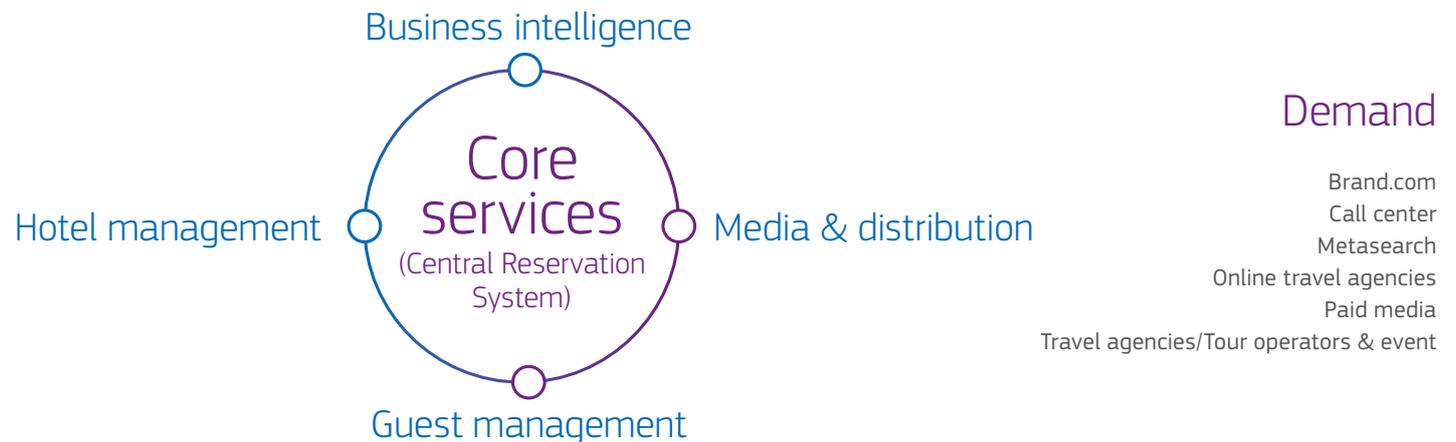
In 2019 our hotel distribution network reached a record 6.5 million shopping options, thanks to continued partnerships with leading providers and historic new deals that boosted our accommodation content by more than 30% on the Amadeus Travel Platform. This includes everything from hotels, motels and resorts, to homes, apartments and more.

### Helping hotels increase visibility to acquire more guests

With bookings from online travel agencies and global distribution systems showing no sign of slowing down, we launched a new digital media product and enhanced another to help hoteliers maximize the distribution channels available to them and maintain control of how their rooms and facilities are advertised and sold. [Amadeus Dynamic Rate Ads](#) pulls up-to-the-minute rates from the [iHotelier](#) booking engine into digital marketing campaigns to drive higher conversion rates on three channels – display, search and social. And new reporting and analytics capabilities for [Amadeus Travel Agent GDS Advertising](#) helps hoteliers attract and win high Average Daily Rate bookings.

### Supply

- Hotels
- Mobility
- Insurance
- Tours
- Entertainment
- Other experiences



## Reservations solutions meeting today's traveler expectations

In the area of reservations, we're making significant progress on the rollout of the [Amadeus Central Reservations System \(ACRS\)](#) with InterContinental Hotels Group. The solution is live across the chain's entire portfolio – more than 5,600 properties and 15 brands in more than 100 countries.

Future implementation of attribute-based selling functionality will bring massive disruption to the industry and will transform the way hotels sell to guests. This shopping and distribution model puts guests in the driver's seat when it comes to selecting room attributes or "add-ons" (e.g. views, smart devices or sports/fitness equipment). By including non-room inventory (e.g. a restaurant or spa appointment) and off-property services (e.g. a cooking class or golf tee time), hotels can deliver true personalization while growing revenue through profitable upsell opportunities.

In addition to ACRS capabilities in use by IHG, our central reservations customer base continues to expand in global markets with increasing implementations of our industry leading iHotelier product. With our omni-channel distribution connectivity and integration to business-critical partner solutions, this product line is complementary to our long-term vision of delivering a single platform that meets the needs of complex hotel chains while delivering on the promise of driving profitable demand for the independent and mid-chain market segments.

## Operational efficiency to deliver memorable experiences

Our investment into hotel management solutions continues as we expand the capabilities of our [Sales & Event Management and Service Optimization](#) solutions. Our software is tailored to meet the operational needs of all properties – from large convention centers to select service hotels that represent a significant portion of the existing market and new construction pipeline. We also started the pilot rollout of a new Service Optimization offering for Select Service hotels – focused on providing hoteliers with technology solutions to streamline operations and affordably deliverable memorable guest experiences.

## Industry-leading insight enabling hotelier growth strategies

Data is in high demand in the hospitality industry and critical for strategic growth, which is why we made several enhancements to our business intelligence suite. In 2019 we launched a first-of-its-kind solution offering an unprecedented view of short-term rentals. Our [Alternative Accommodations](#) solution empowers hoteliers to identify home-share listings by zip code and develop a competitive rate strategy to ensure they can optimize demand.

We added valuable new features to our Campaign Advisor toolkit as part of our [Amadeus Guest Management System](#). The integration of Campaign Advisor with our leading business intelligence solution [Demand360®](#) takes the guesswork out of marketing by providing hoteliers with recommendations on when to run marketing campaigns based on predictive occupancy in their market.

## An end-to-end solution to increase profitability and loyalty

The diversity of our portfolio demonstrates the flexibility of our solutions to meet the needs of small independent hotels to large brands to boutique hotels. We're building a platform of capabilities designed to enable hotels to inspire guests and drive profitable demand, deliver exceptional experiences, and increase guest loyalty.

This is exemplified in our newly expanded partnership with Edwardian Hotels London as they launch their latest project, The Londoner. With the opening of the world's first "super boutique" hotel, powered by our marketing and distribution, guest interaction, hotel management, and administration capabilities, this first-of-its-kind property will be able to use advanced insights gleaned from guest journeys and preferences to personalize the travel experience and help increase guest retention.

With a dedicated hospitality business unit of more than 3,000 employees, our knowledge of the industry runs deep. At Amadeus, we listen to our customers and build software to solve modern-day hotelier challenges over the full guest life cycle.

Our technology isn't meant to replace the human connection but enhance it, so hoteliers can deepen their relationships with guests through personalized and tailored offerings and make more informed business decisions that drive revenue.

"We are pleased to select TravelClick for The Londoner and look forward to working with them once again on this new property. The Londoner is a significant venture for the group, creating new standards for contemporary luxury hotels in our key market. Given our well-established relationship with TravelClick, I am confident its products will be able to fully support our needs for this new hotel."

*Inderneel Singh*  
Director  
Edwardian Hotels London

# Key Hospitality highlights in 2019

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“We’re constantly on the lookout for strategic collaborations that can enable us to reach even more people around the globe, empowering them to easily discover and book their ideal travel experiences via Booking.com. We’re delighted to be working with a partner like Amadeus that truly shares our passion for technology and innovation. Together we’re looking forward to seamlessly connecting even more travelers with the stays and trip experiences that are just right for them.”

*Ripsy Bandourian*  
Vice President of Partnerships, Booking.com

“At Marriott, we’re committed to giving our properties the tools and information they need to increase revenue and profitability and TravelClick helps us do that.”

*Drew Pinto*  
Senior Vice President, Distribution & Revenue Strategy, Marriott

We continue enhancing our hotel content offering through the Amadeus system. In April, we announced a landmark partnership with Booking.com. Through this agreement, Booking.com’s content will now be available on the Amadeus Travel Platform, and travel sellers will directly benefit from an increase of 30% in the accommodation options made available through Amadeus. Travel sellers will be able to access the new content in the coming months through multiple points of sale including Amadeus Selling Platform Connect and, for corporate bookers, through Amadeus cytric Travel & Expense.

We expanded our strategic alliance with Marriott International. The company will recommend its more than 7,000 properties across 132 countries and territories to use TravelClick’s Travel Agent GDS Advertising, Agency360 and Rate360 to drive additional revenue and improve profitability.

We partnered with Agoda, one of the world's fastest-growing online travel agents, to extend our hospitality content offer. Thanks to this agreement, all of Agoda's pre-paid hotel content, a total of 150,000 properties, will be available to travel agents through Amadeus at the same price as Agoda's website.

We continued expanding our portfolio of customers in this segment. American hotel chain Coast Hotels contracted TravelClick's iHotelier and business intelligence solutions, which will be implemented across its almost 40 properties.

The World Trade Center Boston & Seaport Hotel and the Australian chain Crown hotels and its seven properties renewed their contract and implemented the advanced module of our Amadeus Sales & Event Management solution. This solution helps hotels deliver exciting, engaging events, underpinned by excellent customer services and operational efficiency.

Welk Resort Group opted for Single Media Agency for three of its properties. London-based hotel St Giles London also contracted this solution.

## 2.5 Diversification areas



Travel remains a highly fragmented experience, but today's empowered consumers want more choice, autonomy and simplicity when it comes to their journeys. Crucially, passengers expect a smooth experience at all points of the trip. That's why we're committed to reducing sources of pain and stress in travel by exploring the impact of innovation in technology to create joined-up travel experiences.

As the travel industry evolves, we're working closely with our customers to find new ways of thinking and doing things. We're co-innovating with them to overcome the divide between industry segments and to help them harness technology that can drive value in these times of change. New growth opportunities will come from frictionless travel systems that help remove the silos and complexity currently standing in the way of stress-free journeys.

Whether it's by reducing boarding times with biometrics technology, enhancing payments security without compromising on user experience, delivering timely destination offers, or generally contributing to a more innovative industry, Amadeus' diversification areas are pioneering the change travelers want to see.

Our Strategic Growth Businesses unit, home to Amadeus' diversification areas, encompasses Airport IT, Payments, Digital Advertising, Rail as well as the division of Research, Innovation and Ecosystem. ↪

### Airport IT

Amadeus offers technology solutions to airport operators, airlines and ground handlers to help them better manage the passenger experience and allow greater collaboration between all stakeholders in the airport ecosystem.

In 2019 airports continued to invest in technology to manage rapidly growing global passenger numbers and to enhance the airport experience for passengers, whose expectations are similarly growing.

↪ See "Innovation for business growth," p. 60

In particular, demand for biometric technologies rose as airport operators looked to streamline passenger handling and remove friction points at the terminal. An example of this was at Ljubljana Airport, where Amadeus ran a biometric pilot with the airport and three of its customer airlines. Using a simple registration process, which involved passengers taking a "selfie" from their phones, handling times were cut by 75%, from 5–10 seconds to just 2. The pilot represented a significant step toward a common standard for the industry, as the trialed solution works with any provider of biometric equipment and can be used across all airlines and airports. Until now, this type of common solution hasn't existed in the market.

In addition to biometrics, automation technologies also saw an increase in adoption, as airports employ both to provide a frictionless, end-to-end travel experience. An example of this is Perth Airport, which is undergoing extensive systems modernization. Perth is using Amadeus' flexible passenger handling platform to implement a fully automated solution, with a biometrics proof of concept included in the roadmap. Automated kiosks and Auto Bag Drop units will be provided by ICM Airport Technics.

Acceptance of cloud technology in the airport industry continues. In an important milestone, Baku's Heydar Aliyev International Airport became the world's first fully cloud-based airport, selecting Amadeus to move its core operations to the cloud.

Off-airport passenger handling also continues to gain acceptance as airports seek to add additional capacity on demand while further personalizing journeys for passengers. In Australia, Off Airport Check In Solutions (OACIS) checked in its 25,000th passenger off site using Amadeus' passenger handling platform. The company also announced in 2019 that it would be introducing off-site check-in to New Zealand, a first for the country.

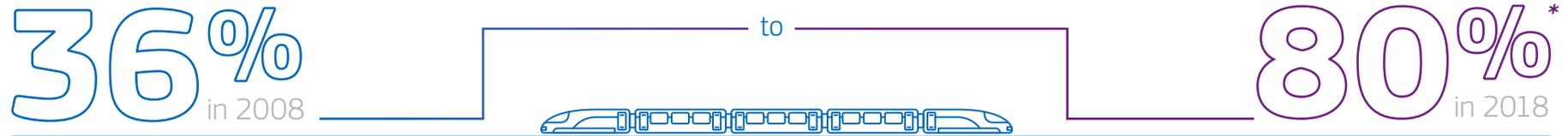
To navigate their digital transformation journeys, airports are investing in strategic technology partners. In North America, Louis Armstrong New Orleans International, San Diego International and Kelowna International airports all partnered with Amadeus to modernize their IT systems.

Finally, 2019 saw Bruno Spada appointed as the new Head of Airport IT, upon the retirement of former Head John Jarrell. Mr. Spada leads Airport IT as Amadeus continues to bring innovation to the airport industry, assisting airports in addressing long-term challenges and unlocking new potential for growth.

Amadeus now services 291 customers globally with its Airport IT offering, including 128 airports, 129 ground handlers and 34 airlines.

In 2019 we completed the acquisition of ICM Airport Technics. ICM, headquartered in Sydney, Australia, specializes in the provision of passenger automation and self-service bag drop solutions for customers, principally in Asia-Pacific and Europe.

Rail share for the Rome-Milan market route has grown from



\* <https://italospa.italotreno.it/static/upload/com/competition-between-air-and-high-speed-rail.pdf>.

## Rail

In 2019 the travel industry boarded the “renaissance train.” With the rise of the “on-demand economy,” rail passengers are looking for ease, efficiency and personalization. Greener travel is on the list too.

The marketplace is also seeing new modes of distribution evolve. Travel sellers are experiencing a big shift in bookings to online tools and mobile applications, and customers are now demanding easier price comparison between different transport modes and routes.

European railways embarked on their final journey to rail liberalization. 2020 will be the year where passengers will start benefiting from competition. Better offerings and lower prices will lead the way to growing demand for rail travel.

In this context, Amadeus helps railways widen their reach by selling their tickets more efficiently across direct and indirect sales channels worldwide. For example, we’ve partnered with Deutsche Bahn and Swiss Federal Railways to power a new booking solution for their websites and mobile apps. This new solution, Amadeus Rail

Hub, enables passengers to book in one place rail journeys across Europe. By endorsing the standardization of the rail industry, we help railways connect to each other, making international train journeys as easy to book as they are to travel.

But we also take our customers beyond their domestic markets. In 2019 Ctrip and Amadeus announced a new distribution agreement through which Ctrip customers from anywhere in the world will be able to book and pay for tickets from Renfe, the Spanish rail operator, in their own language and currency.

Lastly, we’re particularly proud to be the first technology platform distributing China Railway offerings anywhere outside mainland China. Travel agencies using Amadeus Selling Platform can now book and refund China Railway tickets in multiple languages.

Digitalization has been a reality for many years across all travel segments, including rail, where it is now top of the agenda. Rail operators are looking into creative ways to adapt to a more digital world.

“Since we started selling other international rail carriers last year, the success has been tremendous, with month-to-month increases in sales volumes.”

*Alexander Mokros  
Head of International  
Partnerships and Industry  
Partners, Deutsche Bahn*



Watch our video to learn more about our partnership with Deutsche Bahn

Our payments business is ideally positioned to help our customers get paid cost-effectively worldwide by providing a single link for them to connect with hundreds of banks and fintech companies.

## Payments

In the complex world of payments, Amadeus wants to simplify the picture. Our payments solutions help travel companies get paid and pay out their suppliers.

The way payments are handled continues to change rapidly, as consumers, venture capitalists, corporations and banks embrace fintech innovation. There are now more than 300 different ways to pay for goods and services across the globe, ranging from the established card schemes right through to new but significant local payment methods. For example, BLIK, a Polish mobile payments system for shopping both in store and online, and withdrawing cash without a card, is set to process 200 million transactions this year, up from 2 million just a few years ago.

While this explosion of innovation particularly benefits consumers, it's also creating enormous complexity for businesses, especially those that operate globally and with multiple channels to market. Travel companies must contend with many different payment methods, currencies, local cultural norms and payment service providers in order to get paid.

The opportunity for travel businesses to enable a more frictionless payment experience is no longer simply about "accepting the money." A company's approach to payments is now a differentiator, and our own research shows that 70% of travelers would select one travel provider over another based on a good payment experience.

Our payments business is ideally positioned to help our customers get paid cost-effectively worldwide by providing a single link for them to connect with hundreds of banks and fintech companies. During 2019 we released our *Travel Payments Guide* to give our customers the local market insight they need. We also announced our partnership with PPRO, a leading aggregator of alternative payment methods, opening up access to all the major alternative payment methods needed by airlines. And we strengthened our relationship with Continuum, a leader in multi-currency conversion. Our ultimate goal is to help our customers deliver a frictionless experience to the traveler via a single link to Amadeus.

Traditionally, travel agencies have had to contend with legacy payment methods in order to pay their suppliers, such as airlines. These methods (e.g. lodge cards and corporate cards) can't convey sufficient data through the chain and so result in a costly reconciliation process for everyone.

By introducing virtual payment options for our travel agency customers, we can greatly simplify how they do business while significantly reducing fraud. In 2019 we launched Amadeus B2B Wallet Partner Pay in partnership with Elavon and Mastercard. This solution allows agencies to pay using an airline-branded virtual card, reducing the cost of payments by up to 70% compared to existing methods. Thai Airways and Swedish travel agency Select Travel were the pilot customers.

Also in 2019, Ypsilon, one of the largest aggregators of low-cost carriers content, integrated Amadeus' B2B Wallet Solution within its booking platform to simplify agent payments to low-cost carriers. By integrating Amadeus' B2B Wallet solution, agents can now automatically generate a virtual card quickly and simply within the Ypsilon booking flow. Each virtual card is unique to each individual booking, making reconciliation simple while reducing fraud.

We have expanded our network of partners to enhance the security and efficiency of our solutions. We announced a partnership with Barclaycard to integrate its Precisionpay virtual card technology with our B2B Wallet, and another one with CyberSource, Visa's payment management platform. The latter has helped us equip our customers with the capability to deliver on the challenging requirements of the Payment Services Directive 2 (PSD2) Strong Customer Authentication (SCA) regulation to introduce additional security checks for all electronic payments in Europe, without compromising on the payment experience.<sup>12</sup>

2019 has been a pivotal year for the development of Amadeus' payments business. We've seen triple-digit growth across our virtual card "pay-out" business and double-digit growth in our merchant "pay-in" business, as well as a significant number of airlines migrating to our Xchange Payment Platform to accept payments more easily across the world.

<sup>12</sup> Our practical paper on this topic can be found here: <https://amadeus.com/en/insights/blog/strong-customer-authentication-is-almost-here#modal860997191>.

## Digital advertising

Tourism organizations and travel destinations, like VisitFinland or the Jordan Tourism Board, are on their way to becoming fully digitalized and are implementing strategies to manage growth in a sustainable way. They've started to embrace big data, immersive technologies and digital advertising as powerful means to reach their inbound tourism goals.

Amadeus has been working with travel destinations in the past few years across various business units – notably Amadeus Travel audience, which offers digital advertising solutions, and Amadeus for Destinations, which provides big data solutions and B2B travel advertising.

With the growing importance of this segment for Amadeus, the two units have merged into one, with the objective of creating a longer-lasting value proposition for destinations by offering a compelling portfolio of solutions that combine data and advertising in one offering.

In 2019 Amadeus used its strength as one of the largest processors of travel transactions in the world to provide destinations with data analytics solutions that give up-to-date, global insights into traveler trends, including planning, purchasing and travel behaviors. Destinations use these insights to define their strategies and to optimize marketing campaigns with operational decisions about timing, placement and content. Our powerful advertising technology

has enabled destinations to target and reach millions of potential visitors through online and offline advertising channels at every step of their journey – from dreaming and planning, to purchasing, to traveling. Our strategy has helped destinations win incremental visitors via digital performance campaigns.

In 2019 the new unit intensified its cooperation with travel destinations advanced in their digitalization process, such as Dubai, Germany, Colombia, Jordan and Finland. Strong collaboration with tourism-related institutions such as the United Nations World Tourism Organization (UNWTO) ↪ also helped to consolidate our position as a key player in the travel destinations segment.

Amadeus Travel audience leverages machine learning to display the right advertising message to the right audience at the right time.

Travel audience's solutions address the needs of both advertisers and publishers. Advertisers are provided with a strong publisher network thanks to "premium publishers" – publishers that Travel audience has direct contract with. In addition, Travel audience makes use of ad exchanges to ensure that advertisers find the right target audience for their campaign. As for publishers, they get interesting travel-related ad content for their websites, and Travel audience works closely with them to maximize the results.

Today, we serve more than 300 advertising partners – from airlines to destination marketing organizations, online travel agencies and hospitality groups.



Watch this video to learn more about our work with the German National Tourist Board

↪ See "Amadeus industry affairs," p. 84.

# Technology and innovation

## CHAPTER 3

### Leadership in travel technology



The travel industry relies heavily on technology. This trend is accelerating, with multiple channels and methods to interact with travelers, including emerging ones such as messaging, voice assistants and connected objects.

Most travel providers use sophisticated methods for merchandizing their products, evolving toward fully personalized offers covering all parts of a trip. This customization requires an understanding of traveler behavior that is achieved through the analysis of large amounts of data. Artificial intelligence and advanced cloud-based data analytics are starting to

play a critical role for providers and distributors to stay ahead in this very competitive industry.

The wave of technology innovation in the travel industry isn't drying up – on the contrary, we're observing a trend of consolidation together with a continuous flow of new entrants. This includes both start-up companies that can quickly build niche functionalities, and major technology companies expanding their existing portfolio of solutions into travel.

In this dynamic context, Amadeus enjoys a privileged position. We already offer a large portfolio of travel-dedicated applications across the widest customer base in the travel industry: travel providers, travel distributors and their traveler customers – and in almost all countries. This means that our platforms handle a rich set of functionalities, amounts of information and historical data reflecting all kinds of traveling situations. And by operating applications for both travel providers (IT) and distributors (global distribution systems), we keep an up-to-date vision of the major evolution trends in the industry, covering the elements of the whole travel journey.



We maintain and develop our technical leadership through a set of unique capabilities:

— Deep knowledge and field expertise of all travel components, deployed on a large scale for both travel distributors and IT providers, including:

- Airlines
- Airports
- Car rental
- Ground transportation<sup>1</sup>
- Hospitality
- Leisure tours
- Rail
- Travel payments

— Extremely high-performance transaction processing under stringent system availability, security and dependability requirements. All our applications evolve while ensuring a continuous service to our customers. In 2019 we processed over 100,000 user transactions per second at peak time in our main data center.

— The management of very large databases with full transactional integrity, an essential factor in travel reservations. In 2017 we introduced new database techniques in our applications for deployment over multiple data centers and public clouds. In 2019 we have more applications in production and we're progressing at a fast pace on the distribution of databases.

— Rapid response time for all functionalities from any point of access in the world, serving hundreds of thousands of simultaneous users, and a greater number of travelers connecting to the websites of our customers. This network of travel professionals and consumers forms one of the largest web ecosystems worldwide in terms of traffic.

— A true omni-channel approach, servicing all functionalities from a wide range of devices

and interaction methods, such as agent desktops, websites, kiosks, cell phones, tablets and chatbots, as well as system-to-system integration via various application programming interfaces (APIs). Whatever the channel, our customers are all accessing common data records and processing them from a single set of community applications, delivering a seamless traveler experience.

We use a combination of intellectual property rights (notably copyright, know-how, patents, trademarks and domain names) and appropriate intellectual property provisions in transactional agreements to protect our innovations. We also contribute to the development of open source communities in the context of our partnerships with major IT vendors.

## A business-oriented technology organization



The Amadeus Engineering Community governs all of our technology efforts. It is responsible for the whole development cycle, from design to delivery, as well as the operational coverage of our applications in production. Engineers' roles encompass product specification, software development, quality assurance and operational deployment.

The Amadeus Engineering Community is organized in a set of teams embedded in each business unit, complemented by two large transversal units for common technical activities: Technology Platforms & Engineering (TPE) and Core Shared Services (CSS).

— The product-oriented R&D divisions report to the management of their respective product businesses: Distribution, Airline IT, Hospitality, Rail and Airport. They have a strong focus on customers.

<sup>1</sup> Including buses, undergrounds and express links, but also taxis and ride-hailing companies like Uber.

- Technology Platforms & Engineering (TPE) is responsible for the delivery of reliable, efficient, and sustainable platforms across all our businesses. The focus is not only on the automation and monitoring of traditional data center operations but increasingly on the operations cycle of cloud-based architectures to support transitions.
- Core Shared Services R&D (CSS) is responsible for the core airline reservation, pricing and shopping applications, as well as payment functionality, which are common to our global distribution system and Airline IT products. CSS is also responsible for the executive governance of quality management, development tools and project methodologies across all businesses and customer segments.

The Engineering Community's configuration helps us be responsive to customer demand across each business, while aligning the whole company along a common set of practices and technical environment. This gives us flexibility in deploying technology investments along business priorities, but under a global strategic technology roadmap. For instance, the Amadeus hospitality guest reservation system was already fully migrated to a cloud-based architecture in 2018, whereas other evolutions are introduced progressively for other applications, with effective deployments in 2019.

Technical innovation supports business demand via global architecture modernization. We've built a central agnostic platform for managing data and analytics on a large scale. Applications can then leverage this platform at their own pace to build modules using machine learning and other artificial intelligence techniques.

In 2019 Amadeus led the travel industry in Europe's R&D Investment Scoreboard for the eighth year running. We're also the second-largest investor in the European software industry.<sup>2</sup>

## Technology centers worldwide

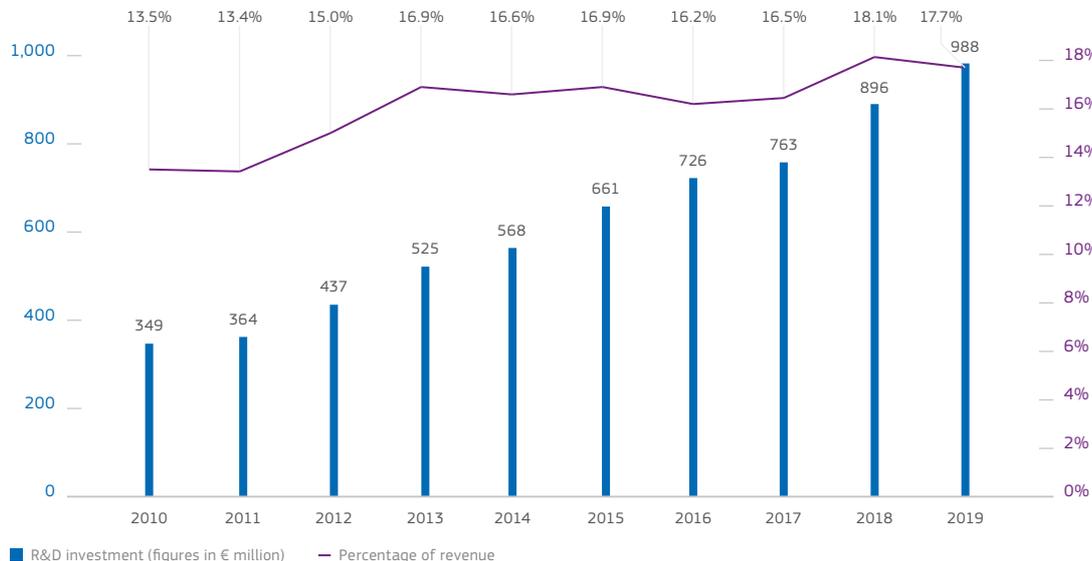


The Amadeus Engineering Community is organized as a network of technology centers across the world. These technology centers have full autonomy or share responsibilities for functional domains, transversal activities and customer projects. Amadeus makes sure its technology teams work closely with customers, even beyond the implementation period.

In 2019 we continued to operate active centers with dedicated technology teams in the same locations as key customers, for example in our Dallas, Dubai, Tokyo, Seoul and Sydney sites.

All technology sites also work closely together, and our projects and product development processes are increasingly distributed over several regions. Nice (France) is the largest technology center, with on-site and global teams developing solutions for:

Amadeus R&D investment\*



\* Gross expenditure on R&D.

<sup>2</sup> The EU Industrial R&D Investment Scoreboard contains economic and financial data for the world's top 2,500 companies, ranked by investments in research and development. For more information, see <https://iri.jrc.ec.europa.eu/scoreboard/2019-eu-industrial-rd-investment-scoreboard>.

- \_ Airlines
- \_ Airport IT
- \_ e-Commerce
- \_ Hotels
- \_ Payments
- \_ Railway companies
- \_ Travel agency points of sale
- \_ Travel distribution (core reservation)
- \_ Travel intelligence

Our second-largest technology site, Amadeus Labs in Bengaluru, is a general technology center covering a large spectrum of products and functions for software development and operational activities.

In 2019 our development sites have grown in all regions, showing that this distributed development approach can scale well.

Amadeus' global operations organization is in charge of the development of operational tools and the deployment of infrastructure in our data centers and in the cloud. It also has full responsibility for operational support based on a follow-the-sun model, with dedicated specialist support groups in Australia, Germany, India, the United States and the United Kingdom. This distribution over many strategic locations in different time zones ensures that 24-hour service is guaranteed with the fastest response to any customer incident.

Recruitment for Amadeus' R&D teams is oriented toward incorporating a wide range of expertise and international cultures. Staff mobility, short- or long-term, is encouraged between both business expertise domains and geographical locations. Amadeus also offers numerous internships to top international schools, with formal recognition of their contribution in the form of an annual intern contest. Over the period 2015 to 2019, Amadeus has appointed close to 180 experts and specialists in all critical functional and technical domains required by our applications. ↪

Amadeus provides its staff with a stimulating environment that fosters creativity and helps spark innovative thinking, promoting teamwork and staff interaction. Our office buildings have a collaborative space design to facilitate the dynamic deployment of teams, both on site and across sites. This is an essential component of our development methodology within a geographically distributed organization.

## State-of-the-art development methodology

Early in 2014 we introduced Agile methodology across all software development activities.

Agile is a set of practices and collaboration tools mapping all phases of software development in frequent iterations (sprints) managed by small teams, instead of sequencing the specifications, coding, testing and delivery with a large organization.

This methodology is now widely used in all modern IT companies. Cutting product development into smaller chunks gives much better control over the progress of a project, and, very importantly, ensures the convergence between functional specifications and customer requirements. It's also instrumental in leveraging the high modularity of our systems, allowing the applications delivered to our customers to share and reuse functionalities and technical components.

Considering the functional span and complexity of our products, typically involving large development efforts, we've adopted Agile methodology to encompass the activities of multiple teams, frequently spread over various sites. In many cases, we've also involved customer representatives in the Agile cycle. This is why, as of 2018, we've been embracing the industry standard SAFe® methodology (Scale Agile Framework).

SAFe® promotes collaboration and alignment for a very large number of Agile teams along the whole production cycle, from the product requirements stage to delivery. As it's a standard, it makes it easier to collaborate with customers and technology partners.

SAFe® has been adopted as the global methodology for the whole Amadeus organization, including our commercial activities. The R&D and operational teams are therefore fully vertically aligned with project management.

In parallel, and within the Agile approach, we're pushing forward for full implementation of Continuous Integration/Continuous Delivery (CI/CD).

CI/CD is a set of best practices and tools used to automate and monitor the production cycle, from programming to delivery. The objective is to accelerate the software development cycle while maintaining extremely high levels of quality.

Automation tools are at the heart of this approach. For Amadeus, this is a very beneficial investment, as we manage an extremely large volume of features and functional evolutions for a large set of customers.

↪ See "Amadeus people and culture," p. 62.

In 2019 a large proportion of our applications went under CI/CD, from development to pre-production. This has led to noticeable improvements in the overall time to deliver many projects.

The last element of the software development cycle, which is actual deployment to production and operational management, has been addressed since 2018 by promoting a DevOps approach.

DevOps is both a type of organization mixing development and operational skills, and a set of practices, procedures and tools covering application management in a production environment.

In 2019 we started pilot projects for some critical applications requiring a fast turnaround of software changes in response to customer requirements.

The deployment of DevOps will continue in the coming years.

## An effective cloud-based architecture

Cloud-based architectures encompass a set of design practices and concrete technical implementations all aiming to provide the highest levels of flexibility, reliability, resilience, scalability and performance for very large systems. They promote an explicit separation and abstraction of the application, platform and infrastructure layers.<sup>3</sup>

In mainframes, these layers are completely interlaced and proprietary. In contrast, the cloud-based technical approach enables a flexible management of computing resources and an automation of software deployment, from development to production, leveraging standardized, low-cost, low-consumption hardware, potentially distributed across multiple data centers.

The core concepts are based on redundancy, isolation and operational monitoring of components in a distributed architecture, providing built-in scalability and intrinsic tolerance to system failure. Applications are containerized and can easily be deployed over any compliant infrastructure.

We began to adopt this approach as early as 2014, even before we fully decommissioned our Transaction Processing Facility (TPF) mainframes. We first deployed some pilots and then launched

<sup>3</sup> These layers are often referred to as SaaS (software-as-a-service), PaaS (platform-as-a-service) and IaaS (infrastructure-as-a-service).

commercial applications in 2016, such as Amadeus CRS<sup>4</sup> in our Hospitality business line.

Over these years, we've consolidated our technology choices based on open source technologies provisioned from mainstream IT vendors such as Red Hat<sup>5</sup> to benefit from enterprise versions of software and premium support.

We've also adapted a number of tools and practices used by our software engineers to automate the development and delivery of applications in a fully cloud-compliant environment. The whole set of technology has been grouped under the generic term of Amadeus Cloud Services, whose purpose is to deploy and operate applications on any kind of infrastructure, whether private or public clouds.

Amadeus Cloud Services is a critical element of our technical strategy, because it keeps us relatively independent from current and future cloud hosting by external vendors, protecting our significant investment in the development of existing applications. Naturally, most new applications are designed to be natively cloud-compliant. For existing ones, the migration is prioritized based on the immediate benefits that the cloud brings.

2019 has seen substantial acceleration in our evolution toward a fully cloud-based configuration of our applications and services. The Amadeus Cloud Services architecture is operational, along with the cloud-compliant development environment.

Now that the architecture principles have been consolidated, we're putting our efforts into effective deployment. This means making decisions in 2020 about the procurement of cloud infrastructure as a combination of public clouds and privately hosted data centers.

One unique benefit of cloud-based architecture is the ability to seamlessly distribute an application over several infrastructures. This provides a full solution to resilience and capacity management. Applications will always be up and running on one of the infrastructures, and there's no limitation to adding (or reducing) the number of machines in each infrastructure where applications are executed. For business applications, this translates into the ability to handle extremely large volumes of data and processing with quasi-continuous system availability.

<sup>4</sup> Central reservation system. In the hospitality sector, a CRS is a guest reservation system that manages hotel information like availability, rates and inventory.

<sup>5</sup> Red Hat delivers the enterprise version of OpenShift, a cloud-oriented technical stack, which itself remains in the open source domain. Red Hat was acquired by IBM in 2018 for USD 33.4 billion.

For certain categories of applications essentially performing calculations from a read-only database, such as air shopping,<sup>6</sup> the transition is relatively straightforward, with a repackaging of applications. As of 2018, we transferred part of our air shopping capacity to Google Cloud, demonstrating that the capacity distributed over public clouds and our own data centers can be adjusted dynamically. This became fully operational in 2019.

We already have concrete field experience with the deployment of such distributed architectures for applications like Amadeus' guest reservation system with InterContinental Hotels Group.

Beyond the technical and operational benefits of distributed architectures, we believe that the evolution of our systems is fully in line with the business trends of the travel industry. The New Distribution Capability (NDC) standard of the International Air Transport Association (IATA) specifically promotes the concept of distributed travel shopping and reservation as opposed to a centralized reservation system, in which performance will become a critical factor of viability and adoption.

With our investment in cloud-based architectures, Amadeus will be in the best position to propose advanced solutions to both airlines and travel sellers from a common investment and organization.

## Distributed operations and data centers

Data center operations are a critical element of Amadeus' strategy to deliver competitive products and services to customers. Beyond cutting-edge functionality and features, our customers also expect robust, versatile and fast systems, as their businesses increasingly rely on our platforms. Capabilities such as continuous availability, sub-second response times and flexibility of deployment are becoming mission-critical business features. Both on mobile and on the internet, response time is seen as a critical factor to adoption and conversion. Our customers need advanced security to develop trust with their users and partners, so they can safeguard their personal and financial data.

Amadeus delivers its services to customers from many locations – a combination of our privately owned Amadeus Data Center, private

clouds in remote locations, and public clouds such as Amazon Web Services, Google Compute Engine, Microsoft Azure and Salesforce.

As a key element of Amadeus' strategy, we always maintain full control of all operations, irrespective of the nature and location of the physical server infrastructure. This is crucial for Amadeus to hold end-to-end responsibility vis-à-vis our customers, as well as to perform any required fundamental changes in our technical or operational frameworks without external dependencies or constraints.<sup>7</sup>

The increasing customer demand for travel information and reservations has led to a rapid and ongoing increase in IT systems capacity. We've moved from a few tens of shopping requests to thousands of "hits" per booking. This inflation in demand has resulted in exponential growth in data processing and data storage requirements. The IATA's NDC will likely increase these requirements by a factor of 5 to 10.

In 2019 Amadeus demonstrated that air shopping transactions could be dynamically balanced between different sites – our Data Center, private hosting and public clouds – with an on-demand approach to cope with the marked variations in hourly, daily and weekly transaction volumes.

More generally, Amadeus' operations strategy is clearly progressing toward a concept of distributed data centers. This is now possible as we migrate our applications to the Amadeus Cloud Services framework, making them agnostic to the physical infrastructure where they're hosted.

In 2019 we completed the deployment of a global network to make the multi-site operations fully transparent to third-party and customer systems we connect to. This is an important step, as it makes the connectivity of our distributed data centers seamless.

The distributed operations approach delivers native redundancy of systems and dynamic capacity with on-demand models, supporting our commitments to high performance and, when applicable, regulatory constraints by moving our systems close to the customer location or in a designated country.

The Amadeus Data Center remains a key asset of this strategy. It's one of the largest data processing centers dedicated to the travel industry and to providing customers with continued service excellence. It's designed with embedded redundancy, using a

<sup>6</sup> "Air shopping" covers search and pricing of itineraries, in particular the capacity to find the "best prices." The introduction by airlines of ancillary products and other merchandizing techniques based on personalization has made these transactions increase exponentially in complexity and size.

<sup>7</sup> A good illustration of our operational freedom has been the successful decommissioning of our TPF mainframes in 2017.

concept of independent fire cells,<sup>8</sup> and has the capacity to host a significant number of servers, supporting one of the highest rates of transactions in the whole IT industry.

In 2019 Amadeus continued to invest in making its Data Center a fully private cloud facility by standardizing and virtualizing the infrastructure for transaction processing, storage and networking.

## Green IT and energy efficiency



Amadeus has always been focused on the energy efficiency of all its operations. ↪

For the Amadeus Data Center, we received Energy-Efficient Enterprise certification from TÜV SÜD in March 2010 (the certification was renewed in 2012, 2015 and 2018 and lasts until December 2021) for its power supply, cooling and climate control processes and IT equipment, as well as its procurement, installation and de-installation procedures.

We've also extended our data center certification to EN 50600, the new EU standard for data centers that is even broader in scope and more difficult to achieve.

In 2019 the Amadeus Data Center reduced CO<sub>2</sub> emissions to zero. This was achieved through the use of Guarantees of Origin of renewable energy. This initiative also had a significantly positive impact in overall company emissions, which were reduced by 61%, making a significant step toward the ambition of zero company emissions by 2050, in alignment with the objectives of the Paris Climate Change agreement.

Our ongoing investments in the Data Center have also resulted in the continued reduction of the annual Power Usage Effectiveness (PUE)<sup>9</sup> ratio from 1.49 in 2009 (when this value first began to be

<sup>8</sup> Fire cells are sections of the Data Center building that are fully isolated for electrical power, cooling, networking and cabling. This is like having multiple data centers in one big data center.

↪ See "Environmental efficiency of Amadeus operations," p. 94.

<sup>9</sup> A common metric used to measure the energy efficiency of data centers. The closer to 1 the PUE, the more efficient the data center is.

closely monitored) to 1.33 in 2019. The latest Uptime Institute<sup>10</sup> survey places the average PUE values for data centers at 1.7.

## Security



Security ↪ is at the heart of Amadeus' systems in terms of application design and operations. Under the supervision of our Chief Information Security Officer organization, Amadeus follows the best practices of the IT industry, securing our data, our products and our people, responding to security incidents and achieving full security compliance (e.g. ISO 27001 certification or SSAE 16 compliance).

In 2019 we continued our efforts toward compliance with advanced security standards, including the new evolutions of these standards.

In November 2019 Amadeus renewed its certification for the Payment Card Industry Data Security Standard (PCI DSS) Level 1, the highest level for card processors. This standard pertains to the management of credit card payments with the highest measures of data protection. We've also been a member of the Aviation Information Sharing and Analysis Center (A-ISAC)<sup>11</sup> since 2017, showing that we're constantly striving to increase our customers' trust and to share best practices.

Amadeus has taken the necessary steps to comply with the General Data Protection Regulation (GDPR) introduced in May 2018 by the European Community regarding data privacy. We conduct a continuous assessment of compliance of all our systems and processes pertaining to personal private information (PPI) with the support of specialized consulting firms.

From a global operations and technology perspective, Amadeus relies on an independent Security Operations Center (SOC) to monitor the security status of the services it provides to customers 24/7. This service also helps us understand emerging technical

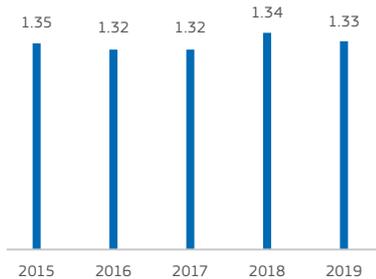
<sup>10</sup> The *Uptime Institute Journal* was founded in 2013 to promote the thought leadership, innovation and proven methodologies of various disciplines and professions within the global data center industry. The average PUE of 1.7 corresponds to a survey carried out in 2014.

<sup>11</sup> The Aviation ISAC is a unique focal point for security information sharing across the aviation sector.

↪ See "Corporate risk management," p. 106.



## Data Center Power Usage Effectiveness



threats and invest in the most appropriate technology to mitigate new risks. The SOC covers the application development process, the Data Center infrastructure and employees' office activities.

All Amadeus staff, regardless of function and location, receive yearly training on security and data confidentiality best practices. For technology divisions, this is complemented by dedicated sessions on application security, based on state-of-the-art practices known as secured development cycle (SDL).

With the adoption of new and disruptive technologies such as social networks, mobile, big data, cloud deployment and connected objects, Amadeus must protect its systems and customers from new types of vulnerabilities, cyberattacks and frauds. In 2019 we continued to deploy software protection under a dynamic approach to contextual security. This has enhanced our proactive detection of potential incidents and our ability to respond to new fraud practices as they emerge.

## From open API to a platform-enabled strategy

We were the first global distribution system to introduce a structured API back in 2000 that later evolved to XML and web services. Today we expose more than 1,000 services out of our central applications, not counting the API exposed for the web front-ends and applications on mobile. Our API powers a large ecosystem of travel actors and is becoming a value-adding business in itself, as it keeps Amadeus in the position of being the reference source for travel services.

The open API concept is primarily about being more systematic in the exposure of Amadeus' systems functionality and in aligning with industry best practices (e.g. being API-minded). Beyond the modernization of underlying technical frameworks, the objective is to promote our API in its business dimension. This facilitates the creation of new generations of solutions, by associating Amadeus functionality to third-party services. We can enhance our own services, leveraging our past investments, and customers can complement our services with their own custom development.

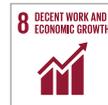
In 2019 we evolved our generic API framework for travel sellers to provide additional services. This is reducing the amount of development on their side, especially when the functionality deals with multiple travel providers. We also enriched our Digital API, dedicated to airline customers, to give them full access to the functions of our Altéa system.

But we go one step further in the API model, with a platform strategy to support airlines in their digital transformation. The objective is to give airlines full autonomy to develop their own applications on top of the Amadeus Airline Platform ↪ via customized extensions built from native functionalities and data. The scope of these extensions is quite large, ranging from enriching e-commerce websites to enhanced servicing of travelers during their journeys with personalized services and notifications.

The concept of platforms is general to the industry and practiced by major players, such as Facebook and Salesforce. Amadeus aims to be the travel industry's platform of choice and to develop a service ecosystem around our applications. In 2019 we made substantial progress on the development and initial deployment in the Amadeus Airline Platform.

Airlines have been extremely receptive to our platform strategy, which they value for its potential to give them freedom to innovate and differentiate. Several hackathons conducted with airlines have demonstrated that the approach speeds up the delivery of differentiating features, since airlines experience a faster time to market.

## Advanced data analytics and business intelligence



Our customers' expectations are high in terms of offers and sales. They don't want raw data, but rather educated information on behaviors and patterns that can help them target the right offer to the right customers and boost sales conversion. They want to turn data into knowledge, and then use it to trigger actions in real time. This is what is called data-enriched transactions.

Amadeus has long been building data management applications offering our customers a comprehensive view of their travelers and the travel business environment. This entails capturing and analyzing beforehand a large amount of information about the traveler and the context in which they interact with the system – before, during and after a trip. Such massive amounts of information, often referred to as "big data," must be stored, mined

↪ See "Airline IT," p. 34.

and transformed into meaningful parameters that can later be injected into real-time transactions.

To support the growing demand for data and keep up with the exponential growth of data volumes, we're progressively converging these data-oriented platforms to a high-performance global data management framework. It leverages techniques such as NoSQL databases and grid-based distributed data clusters (Hadoop)<sup>12</sup> and relies on cloud-based architecture for deployment. It's used for all functional domains and customer types: for airlines, where our digital platform relies on the framework to store data and manage events, but also for distribution, airport and hospitality. The data framework is also used to capture and monitor the large volumes of technical data coming from the operation of our systems.

Our global data platform is capable of handling exceptionally large volumes of data enabling predictive analytics, even on unstructured data, as well as using the results of these analyses to make our applications data-driven.

Our framework includes powerful data analytics techniques, some in real time and others based on supervised and unsupervised machine learning, including deep learning algorithms coming from the artificial intelligence domain. In 2019 our airline shopping component included 11 such enhancements based on machine learning.

We believe that this approach is the basis for a positive feedback loop: the more data, the more relevant the pattern analysis, in turn feeding back transactions with contextual information, generating more data, and so on.

## Innovation for business growth



In 2019 we significantly reinforced our investment in innovation. Amadeus' central innovation division<sup>13</sup> is now a fully autonomous division within the Strategic Growth Businesses unit. As such, one of its main missions is to identify ideas and incubate innovative projects, and then to transform the most promising ones into business opportunities.

<sup>12</sup> NoSQL and grid databases are frameworks specifically designed to manage extremely large volumes of data and documents for transactional flows, interactive search and analytics. Data can be distributed over several data centers in a synchronized manner. These techniques are cloud-compliant. They're used by all major IT players.

<sup>13</sup> Called Research, Innovation and Ecosystems.

A governance process has been set up at corporate level with an Innovation Board. This new incubation process provides a formal framework to leverage the flow of ideas coming from all Amadeus's divisions and their customers. The incubation team also actively monitors emerging business trends such as digital consumers, the platform economy and new mobility paradigms.

This business-oriented approach to innovation complements our existing research activities, which we continue to do internally or in collaboration with academic institutions and start-ups. It also helps to manage priorities between incremental innovation in existing products across the business, and the exploration of breakthrough opportunities that have the potential to transform travel and extend to adjacent business domains. Thanks to its expertise, the mastery of proven innovation methodologies and the richness of the Amadeus ecosystem, the innovation division can offer innovation-as-a-service to our customers to support their business.

Our innovation strategy is focused on three pillars: empowering travelers, no-stress travel and end-to-end travel. For example, in 2019 we explored the five following key projects:

1. Traveler identification throughout the entire journey, providing interoperability between travel actors, certification authorities and technology vendors, under strict security compliance and control by the traveler.
2. Real-time luggage tracking, with a strategic alliance signed in 2019 with Sigfox, a leading Internet of Things provider for industrial companies operating mainly in airports. Several airlines have already expressed high interest.
3. A digital concierge, with a configurable framework to provide contextual and relevant services to travelers and marketing opportunities to travel providers.
4. Self-service marketing and advertising, allowing travel companies to create marketing campaigns with personalized offers and customized media on social networks.
5. A digital tool for booking unique leisure activities at destinations from a network of trusted niche suppliers.

The Innovation Board has already selected 10 new initiatives for 2020, and we're increasing the capacity of our incubation funnel.

Our research lab is staffed with scientists and domain specialists across several Amadeus sites. Its main focus is artificial intelligence and optimization, but it also supports the exploration of specific programming techniques in some Amadeus divisions. Our research lab participates in travel industry events and also runs internal training programs (e.g. the Amadeus Artificial Intelligence Academy).

Amadeus maintains close relationships with the academic world through formal partnerships with universities and research institutes internationally (e.g. Université Côte d'Azur, MIT and ETH Zürich). This cooperation is leveraged for some exploratory projects, but also for organizing training for Amadeus staff in some of the most advanced IT domains. In 2019 our main site in Nice became a founding partner of the Interdisciplinary Institute of Artificial Intelligence (3IA), one of four such institutes created by the French government. It also launched the Innovation Center for Artificial Intelligence (ICAIR) with major companies in the region.

Amadeus also innovates with start-ups, through Amadeus Ventures and Amadeus Explore, which is an innovation partnership program. We now have 27 in our portfolio of alliances, with 10 new joiners in 2019, among which Sigfox. With this program we can explore emerging

technology through field testing in real situations. This allows us to validate the relevance of new techniques and business concepts for our applications and in functional domains adjacent to travel.

Amadeus for Developers is the open API program dedicated to start-ups and third-party developers to experiment with the Amadeus functionality within their own products and services. There's a large flow of demand coming from both travel and non-travel sectors.

In 2019 we introduced a set of open artificial intelligence APIs. For example, these can help predict which flight a traveler is likely to choose, or identify whether a flight search is for business or leisure.

Amadeus is currently the only company offering such an advanced API service, and we were chosen the as runner up in Phocuswright's 2019 People Choice's Award in the "Launch: EMEA" category.

### Amadeus research and thought leadership papers



<i>Travel Payments Guide 2019</i>	<i>Strong Customer Authentication in Travel Payments</i>	<i>Business Traveler Well-being</i>	<i>Digital Footprints: North America</i>	<i>Drivers of Change in Hospitality</i>	<i>The Future of Online Travel</i>	<i>Aviation Industry Competitiveness Index in Latin America</i>	<i>Breakthroughs in Airline Scheduling</i>	<i>Get Ready for Destination X</i>	<i>2019 Global Travel Agent GDS Report</i>
<i>Making a Positive Impact on Travel</i>	<i>Digital Footprints: Argentina</i>	<i>The Future of Business Travel</i>	<i>The Future of Corporate Travel</i>	<i>The Future of Retail in Asia Pacific</i>	<i>Thailand Towards 2030</i>	<i>The Future of Retail Travel in Asia Pacific</i>	<i>The Future of Hotels</i>	<i>Airline Initiatives to Reduce Climate Impact</i>	

# Amadeus people and culture

## CHAPTER 4

Amadeus' people are our greatest competitive advantage and critical to the success of our strategy. We've built our leading position thanks to their commitment, creativity and expertise.

The role of our People, Culture, Communications & Brand (PCCB) team is to make sure that we recruit and retain the best talent so we can deliver the best for our customers.

Our aim is to build an inclusive culture in which diversity is valued, so that all our people can thrive. We provide an environment that appreciates each individual and gives them the best possible opportunity to have a productive, stimulating and enjoyable career.

Our PCCB team provides a wide variety of services and processes to make this possible, from

imaginative rewards and benefits, to tailored learning and development programs, to international mobility opportunities.

They also manage our brand and communications. Our brand comes alive in all we do, not just through our external website and interactions but also our progressive office design. A key element to our brand reputation is also how we communicate externally and internally. Our social media channels enjoy one of the largest followings in the industry, and we keep employees informed of what's happening in the company through relevant storytelling and regular live webcasts with senior management.

All of this makes a significant contribution to a vibrant and successful company.





### Workforce by type of contract (FTEs)\*

	2017	2018	2019
Permanent staff	14,543	16,227	17,263
External manpower	1,752	1,963	1,862
Temporary staff	490	483	317
<b>Total</b>	<b>16,785</b>	<b>18,673</b>	<b>19,442</b>

### Workforce by region (FTEs)\*

	2017	2018	2019
Europe	10,053	10,737	11,035
Asia-Pacific	3,688	3,959	4,297
North America	2,188	2,988	3,137
South America	548	549	529
Middle East and Africa	308	440	444
<b>Total</b>	<b>16,785</b>	<b>18,673</b>	<b>19,442</b>

\* Scope: All fully owned Amadeus companies. Figures in full-time equivalents (FTEs) as of December 31. FTE is the headcount converted to a full-time basis, e.g. an employee working part-time covering 80% of a full-time schedule is considered 0.8 FTE.

## 4.1 Talent



### Talent management

Our people and culture remain our top priority and strongest assets. We know that our employees are the greatest enablers of our business success.

In 2019 we continued our global talent review, following up on the mid-senior to executive leadership population, with a particular focus on identifying upcoming talent and ongoing development actions.

Our talent review approach places special focus on talent assessment and development. This process allows us to closely manage our talent pool, ensuring we have the right people to fulfill our customers' needs. Line managers are encouraged to deliver quality development feedback to employees, which in turn supports regular career conversations, aligning individuals' career interests with available opportunities for growth and development.

In 2019 approximately 1,500 individuals were reviewed using a globally aligned and consistent methodology. Our CEO and the Executive Committee are involved in these employee reviews, dedicating extensive quality time to calibrate and ensure the health of the organization's leadership talent pipeline.

### Talent attraction and recruitment

Our Talent Acquisition team is crucial to the success of our recruitment strategy and our business sustainability and growth. New innovations and technologies reshape the capabilities that we need in our workforce, and we must attract talent from a diverse pool and in a market that's more competitive every year. To be successful, we make sure that our approach to talent acquisition is agile, modern and digital.

The following are some of the key initiatives carried out by our Talent Acquisition team in 2019:

**\_ Amadeus Recruitment Academy:** We kicked off 2 certification training programs for around 40 professionals from different sites all over the world. Following that, participants will roll out further training on job interview skills in their sites. The goal is to continue improving the quality of our recruitment processes along with our candidates' experiences. Hiring managers across all business units are also being trained in interview skills, how to become a better brand ambassador, and about their role in the recruitment process.

**\_ Our communities:** We created two new centers of expertise to make sure that our talent recruiters are aligned all over the world, and to create a strong talent acquisition network across Amadeus. The goal is that important and critical information is shared and cascaded to all areas of talent acquisition. We also rolled out a new knowledge community where talent recruiters can find the tools and best practices to attract top talent.

**\_ New recruitment technologies:** We piloted a video interview tool to show how digitalizing the recruitment process can improve efficiency for candidates, recruiters and hiring managers.

**\_ Social media:** We created different social media campaigns using the testimonials of employees from a range of business units and locations to give prospective candidates insight into what it's like to work at Amadeus. These campaigns included:

- Your Career @ Amadeus
- Graduate and Intern Life @ Amadeus
- Life @ Amadeus
- Amadeus Powers Careers

## Learning and development

### Internal development opportunities

#### Mentoring

Mentoring at Amadeus is a two-way professional partnership in which two employees work together to achieve specific development goals. Mentors use their experience and professional background to provide guidance and support to mentees on their learning journey.

The mentoring scheme supports employees in taking ownership of their development and helps them to:

- \_ Maximize their potential
- \_ Increase their performance

Amadeus' scores on Glassdoor in 2019



- \_ Accelerate their leadership development
- \_ Expand their cross-functional view
- \_ Network with others

With this in mind, the mentoring pairing is done mixing different business functions as well as sites and regions, and selects mentors that have faced similar challenges to their mentees.

The fourth edition of Amadeus' Global Mentoring Program was launched in November 2019. There were 98 attendees (mentors and mentees) from all businesses and regions at this well-established leadership development program. In total, 49 mentoring pairs were formed – a significant increase on 2018's 32 mentoring pairs. This reflects our leaders' commitment to developing talent from within.

In total since the launch of our Global Mentoring Program back in 2013, 270 employees have taken part in this initiative.

On top of the Global Mentoring Program, we offer functional mentoring programs that allow employees to accelerate their development while gaining exposure and visibility in their business unit.

**On-the-job training**

We put great emphasis on the development of our people through on-the-job training. We achieve this through cross-functional

rotations, for which we've defined a framework that helps us select and structure job rotation experiences to provide the best development opportunities for our people, allowing them to progress in their careers.

This is part of our 70:20:10 development and learning principle – 70% on the job, 20% through mentoring or coaching and 10% through formal learning – which is directly linked to the increase in internal applications for jobs. In 2019 we received 19% more internal applications for new positions, and 33.7% of the new hires were of people already working for Amadeus, up from 32.5% the previous year.

**Leadership promotion – processes and development**

After reviewing and revamping our leadership promotion processes in 2018, in 2019 we kept the focus on aligning these for director, associate director and senior manager roles. Our goal was to foster a common set of principles and increase transparency for our stakeholders.

We redesigned, updated and adapted our toolkits and materials to assess both leadership and specialist/technical roles. We also developed a 360-degree feedback template for specialist/technical roles in line with our competency framework.



^

Two Amadeus teams participated in the Free Handi'se Trophy 2019, which ran from Lyon to Marseille.



^

Informational stand as part of activities during the European week of employment for people with disabilities in our offices in Nice. Our employees had the opportunity to learn sign language while ordering a smoothie.

Amadeus' leadership promotion processes are perceived by our people as clear, fair and transparent, with a strong focus on providing them with guidelines to support their development and foster career evolution. A promotion is but a stepping stone to the next in our employees' leadership journeys.

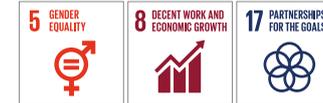
### General learning and development opportunities

Amadeus' employees benefit from over 1,330 blended learning opportunities, including face-to-face, virtual and online training sessions on soft and hard skills. Development programs for employees and managers at all levels are offered across the entire organization, spanning all businesses and geographical locations. Some highlights include:

- \_ The launch and rollout of our Transformational Leadership Program in our Distribution and Airline IT business teams as part of their change management approach.
- \_ The launch of managerial leadership programs for newly appointed managers in different functions and regions.
- \_ The launch of our Travel Channels Sales Academy and the digitalization of our internal product knowledge.
- \_ The rollout of modern virtual learning opportunities in a number of different regions with the aim of globalizing this approach.
- \_ The rollout of our Global Finance Template, supported by an intense training initiative, in the context of creating a more globally harmonized Finance function.
- \_ Within our Enterprise Agility initiative, employees benefiting from structured training paths designed specifically for members and/or leaders of Agile<sup>1</sup> development teams as well as employees and leaders across the rest of the organization.

<sup>1</sup> A particular approach to project management used in software development, which helps teams respond to the unpredictability of building software.

## 4.2 Diversity and inclusion



At Amadeus, we acknowledge and endorse differences based on gender, age, race, ethnicity, beliefs, sexual orientation and disabilities, as well as diversity of thoughts and experiences. We promote respect, fairness and equal opportunity for everybody, and want every employee to shape their own inclusive journey. We focus on creating value for customers, travelers and society through being diverse and inclusive. Our culture promotes respect, fairness, equal opportunity and dignity for everybody and allows our people to be the best version of themselves.

To make this commitment effective, we regularly review our progress to identify opportunities for improvement and to provide direction for our long-term diversity and inclusion strategy. Our activities in 2019 aimed to promote diversity and inclusion within the company and also in a more granular way in the local communities where we operate. The key diversity dimensions we focused on were gender, LGBTI and people with disabilities.

In November 2019 Amadeus was recognized as a Leader in Diversity 2020 in the inaugural ranking by *Financial Times* and *Statista*. The first edition of this ranking is based on direct commendations from more than 80,000 employees. In addition, the opinions of human resources and recruitment experts were considered to refine the analysis. The study assessed 10,000 prominent companies across Europe and recognized 700 companies for their success in promoting all types of diversity.

### Encouraging women in the technology sector

As we continue working to build a workplace with equal opportunities for all employees, we regularly review our selection processes for bias and to ensure that our job offers are gender-neutral. We also closely monitor remuneration processes for gender bias. Women at Amadeus are further empowered through cross-mentoring programs and the work of the employee-led Amadeus Women Network.

We've also been focusing on encouraging girls and young women to pursue careers in STEM fields through our support of Inspiring Girls in Spain and our sponsorship of the Code First: Girls conference in London. Inspiring Girls is an organization that provides female professional role models to girls aged 11 to 15. The girls have an opportunity to meet women in a variety of non-traditional professions so they can expand their view of available professions, ask questions and see that the women who work in these fields aren't outliers. We've also supported Women of Silicon Milkroundabout, Tech Talent Charter and Working Mums.

## Committed to the LGBTI community

Amadeus is proud to show its commitment to the LGBTI community. In addition to our groups in Bangkok and Madrid, our LGBTI employee resource group, Amadeus Proud, opened a chapter at our Heathrow, London offices, increasing visibility and expanding the LGBTI network. We're also founding members of REDI (Red Empresarial por la Diversidad y la Inclusión LGBTI) to promote best practices in the workplace for LGBTI diversity and inclusion.



Employees at our Madrid headquarters form a human rainbow to celebrate World LGBT Pride Day.



^

Interview with Thomas Wepner, from the CISO Office, for one of our Amadeus Live broadcasts.

## 4.3 Engaging our people



### Engage 2019

During 2019 we ran three quarterly pulse surveys to measure our Net Promoter Score – a tool that helps us assess the opinion of our people about recommending Amadeus as a great place to work:

- \_ Participation was high: 75% of our people shared their opinion in the October 2019 pulse survey, up from 58% in the first pulse survey of November 2018.
- \_ Engagement follow-up continued to be stable and also very high. This shows that our people work continuously on engagement, and allows us to foresee sustained high scores for the Net Promoter Score.
- \_ The Net Promoter Score produced an outcome of +6 in the October 2019 pulse survey, the last conducted in 2019, considered to be “good” by Barometro Employee eXperience.

### The Amadeus Team Playbook

Engagement has become everybody’s responsibility in the company.

To help employees and managers, in 2018 we created the Amadeus Team Playbook, which is designed to help individuals take ownership of their productivity and learn what makes a great team.

The Team Playbook is a collection of measurement tools, activities and conversation guides that anyone can use in their team meetings.

The goal is collective ownership of everyday engagement and meaningful conversations.

Since its launch, 2,800 employees have used it.

### Amadeus Live

2018 saw our first company-wide broadcast, *Amadeus Live*, and 2019 saw three more.

The purpose of this broadcast is to strengthen our people’s sense of belonging and connect every employee with the strategy of the company.

The format allows us to align the entire company on strategic topics in one single day, across the globe.

The topics vary from business to people to culture, and anything in between.

On average, more than 5,000 people registered and connected to each *Amadeus Live* edition.

### Strengthening our culture – the Amadeus Way

Amadeus’ culture is our strongest asset and our foundation for sustainable success in a volatile and uncertain environment. To keep our culture relevant, we’ve developed six questions that guide our day-to-day decisions, big or small:

1. What would you say if you were our customer?
2. How do I show ownership of my decisions?
3. What’s the risk? Too big? Too small?
4. Can we do this faster, better, simpler?
5. How can I learn and share with my colleagues or others?
6. Is this good for Amadeus?

### Enterprise Agility

Amadeus is a company built on Agile principles and behaviors. ↪ We foster a strong culture of feedback and transparency along with a mindset of continuous improvement.

Our Enterprise Agility initiative aims to increase speed and responsiveness to customer needs by optimizing the way we work across our business and capitalizing on existing initiatives.

We’ve implemented various Agile methodologies in the past, mostly among engineering teams, but our ambition is to transform the way we all work – no matter what area: commercial, engineering or support.

↪ See “Technology and innovation,” p. 52.

### Agility by the numbers in 2019

- \_ 18 Enterprise Agility for Management training courses worldwide (250+ management positions trained)
- \_ Design and launch of e-learning on Enterprise Agility for all staff worldwide
- \_ 150+ Scrum Master or Product Owner certifications and 300+ SAFe certifications delivered
- \_ 3,000+ people working in Agile including 450+ working in SAFe
- \_ 9 Agile Release Trains working in SAFe launched

In 2019 we started rolling out SAFe<sup>2</sup> methodology as an industry standard to implement Agile at scale. SAFe is an enabler to embark end-to-end stakeholders in creating value for our customers. By continuously enhancing our processes and structure, we are building a stronger and more Agile company culture and leadership style.

We drive scaled Agile implementations through:

- \_ Organizational design of Scaled Agile organizations
- \_ Offering robust Agile training to all employees through e-learning, classroom and certified courses
- \_ Creating Scaled Agile roles and Agile coaches
- \_ Driving Scaled Agile group engagement measurement
- \_ Upskilling a pool of internal SAFe experts to enable SAFe transformations

## Remuneration

To be a successful company, we know we need to attract and retain the best people in the business. One of the ways we do that is by offering competitive rewards to our employees around the world.

We benchmark salaries regularly to make sure we're competitive against the market. Most of our employees participate in an annual performance bonus, which is linked to both company performance, so that employees have a share in the business results, and individual performance, to show that extra effort doesn't go unnoticed.

In addition to typical benefits such as retirement plans and health insurance, we offer different stock-based incentives that help to align the interests of our employees with the interests of our shareholders and create a sense of ownership.

## Duty of care

At Amadeus, we want to ensure the health, safety and well-being of all our employees worldwide. We've all witnessed in years past how incidents can happen at any time.

Managing a global workforce in today's world requires timely and innovative solutions to overcome the challenges that may come our way and to keep our employees safe. For that reason, we've teamed

up with the global leader of integrated critical event management solutions, and launched our "BeSafe" project.

The initiative brings together our People & Culture, Crisis Management and Business Continuity teams to ensure that Amadeus is able to quickly respond to an emergency as and when it occurs. It allows us to contact and support employees during critical events (natural disasters, missing persons, evacuations of buildings, etc.) quickly and efficiently.

After the successful launch of our BeSafe IT solution in our 17 main sites during 2018, in 2019 the project was rolled out to the rest of our entities globally. The "big bang" deployment culminated on October 30 with a global test that involved more than 150 sites.

## Mobility

Our products and services create a business need for our employees to work internationally. We've developed international assignment policies to effectively manage these international transfers while allowing our employees to pursue exciting career opportunities.

## Green is the New Blue ↷

It is in our DNA to enable our employees to reinforce who they are, what they are concerned with and what they are passionate about. Our internal campaign "Green is the New Blue" did exactly that by channeling the passion and enthusiasm of our people for social and environmental causes. It is proof of the amazing enthusiasm, creativity and knowledge that our people have about making our planet a better and cleaner place for all.

This global movement launched using Yammer, one of our internal communication platforms, aims at increasing our employees' engagement with corporate social responsibility and green issues, give visibility to internal green best practices throughout

Amadeus, and strengthen our commitment to being a more responsible and sustainable business. It has engaged almost 7,000 employees, across nearly 30 sites worldwide, with 4 green challenges – #plasticfree, #resourcewise, #greenonholiday and #zerowaste. "Green is the New Blue" has generated a community of people that keeps growing, manifesting our collective sense of pride and belonging, and moving in one direction and with one Amadeus voice toward making our homes and our offices more responsible and sustainable environments.



<sup>2</sup> Abbreviation for Scaled Agile Framework. A set of organization and workflow patterns that promotes alignment, collaboration and delivery across large numbers of Agile teams.

↷ See "Community support," p. 83.

During 2019 we continued with our initiatives from previous years, registering 132 temporary transfers, mainly inbound to Canada, the United States and India. We also continued to see increased activities in the exchange of talent between our main European hubs, where the United Kingdom remains the primary destination.

Some assignments can be permanent when it's not possible to source the required skills locally. Employees may also decide to settle permanently in their new host country. Similarly to numbers in previous years, in 2019 we registered more than 160 permanent transfers, mainly located in Europe, with the United Kingdom, France and Spain as the top destinations.

## 4.4 Brand and communications ↗

### Amadeus' brand

In 2019 our Brand team changed its focus from brand governance to brand leadership. Creating guidelines and supervising their implementation, the team has now become our in-house brand experience design agency.

We're in the process of building an iconic Amadeus brand that combines our shared heritage and innovation and that helps create new business opportunities. To do that, our Brand team has adopted a new philosophy and approach to branding: design is now at the heart of all we do, and our focus is set on arriving at our chosen future.

Iconic brands are much better placed to succeed in business. It's difficult to copy an iconic brand, and the relationship with customers, based on the shared value exchange, goes beyond products and features. Customers don't need to think before they buy an iconic brand, and the goodwill such brands accrue also helps companies navigate turbulent times.

As part of that transformation, we've developed bold brand strategies for our business units. Working together with our commercial business units as well as our corporate functions, we've brought design thinking and doing and storytelling to the table to create great value for our customers.



↗ See "Approach to stakeholder engagement," p. 135.

We've also revamped the videoconference meetings of our brand networks to be more like TED Talks, so that they inspire, elevate our work and powerfully enhance collaboration. So far, we've had very positive feedback on the presentations, with a 96% "awesome" rating.

We've also created a whole new catalog of Brand services and project management methodology. Our Brand team offers our business units and our people storytelling and brand experiences. They work strategically to dynamically integrate our brand into people's lives as a system of experiences, offering them from story to services and across all touchpoints.

In 2019 we also continued the Global Testimonial Program established in 2018, with the goal of bringing our customer success stories to the fore. We highlighted our technology leadership to share the latest accomplishments of our tech teams around the world. And we continued to evolve our understanding of travelers to anticipate their needs.

### Corporate communications

#### Summary and overview

Amadeus' Corporate Communications team promotes and protects the company's reputation externally. Using powerful storytelling techniques and ideas, they bring to life and simplify the often complex world of B2B technology.

At Amadeus, we believe that while content needs to be consistent, it must also be appropriate and relevant to various audiences who want news, information and opinions in different ways and by different means.

#### Our social media presence and channels in numbers

In 2019 the Amadeus Insights section, which includes blogs, media alerts, white papers, presentations, case studies, press releases, infographics and research reports, attracted more than 1,026,876 visits, while our social media followers grew to nearly 335,000, primarily on LinkedIn, Twitter, Instagram and Facebook. Find us online at [www.amadeus.com/blog](http://www.amadeus.com/blog) and on the main social networks as "Amadeus IT Group."

## Thought leadership ↗

Delivering challenging and ground-breaking research that aims to better understand the future of our industry is something now synonymous with Amadeus. In 2019 Amadeus published a range of new research papers, which can be found on [www.amadeus.com](http://www.amadeus.com).

## Internal communications

We have a culture of open, transparent and inclusive employee communications. Our goal is to help our people connect what they do individually with the company vision and strategy. We want to make them more engaged in their day-to-day work and build a sense of belonging to one global team.

Good communications drive performance: we inform our employees about our business strategy, our customers, the market and technology landscape, and key events both external and internal. We work to make relevant resources and information accessible through a variety of channels. We build a sense of belonging by sharing stories that unite us as a global workforce with common values. And we work to empower our employees at all times by encouraging greater exchange, input and dialogue.

Each and every employee makes a unique contribution to Amadeus' goals. We take pride in delivering better journeys, in helping our customers be successful, in innovating, and in giving back to our communities and society. This is brought to life by the personal experiences, perspectives and stories shared on a daily basis with colleagues around the world.

In 2019 we launched our new internal communications platform: "Neo." With Neo, we can connect personal, social and collaborative tools into one experience. Our people can quickly access the information, tools and news they need on a day-to-day basis as well as key information for employees. It's also where they can connect with people everywhere in Amadeus.

When designing Neo, we knew it had to be employee-centric, so we built it on the Microsoft SharePoint platform. Using the same technology we're now using across the company for Office 365 means our people can enjoy a completely integrated experience across our whole suite of collaboration tools, making their lives much easier.

Neo also provides a personalized experience: it's customized based on the employee's unit, their location and the topics that interest them. The platform is also more social, so our people can talk more easily.

↗ See "Amadeus research and thought leadership papers," p. 61.

## Digital ecosystem

Amadeus is undergoing a sweeping change in digital marketing. In less than two years, our Digital team has streamlined over 80 separate domains and countless microsites to one centralized site, serving multiple business units and audiences across the world. With an agile, customer-centric and insight-driven approach, our Digital Ecosystem Program has been implemented to generate sustainable business value in an environment of continuous change.

A key part of the project has been the implementation of an end-to-end sales management process that leverages technology and people to ensure a coherent and successful business case. We're creating a digital ecosystem that allows us to take advantage of different marketing technology platforms, including:

- \_ Customer Relationship Management systems
- \_ Content management systems
- \_ Marketing automation tools
- \_ Webinar providers
- \_ Analytics platforms

We're creating new processes and frameworks to ensure we remain agile. We're ensuring that the people involved are aware not just of the benefits of operating in this new ecosystem, but are also taking ownership of their new roles and responsibilities within the process through effective change management.

Amadeus' digital marketing ecosystem has transformed our B2B marketing capabilities by creating a new account-based marketing model. This model uses the right technology to offer increased business intelligence and produce quality sales leads that can then be tracked through the full sales pipeline.

We've managed this by looking at three pillars:

- 1. People:** we first identify who owns each process, who's involved, what their role is and whether they have the right knowledge to solve any potential issue.
- 2. Process:** We then establish a high-level view of the marketing process to identify the key digital touchpoints and try to standardize them as much as possible. To do so, we deep-dive into the various sub-processes involved, identify exceptions and focus on the common requirements (Pareto principle or 80/20).
- 3. Technology:** Once people are aligned and the processes developed and clarified, we deploy new technologies to support consistency in the way we approach our customers and move

them through the full sales pipeline. The goal is to make it easier to follow the process than not to do so.

Below are some examples points of the new lead management system:

- \_ Collaborating with marketing and sales teams, the Digital team established new processes to synchronize and ensure a “single client view” strategy that gives full transparency and allows proper analysis of marketing impact throughout the sales pipeline – from lead capture to validation and nurturing.
- \_ We incorporated the latest cloud technologies and introduced new digital marketing tools that take the routine work out of marketing. Specifically, and thanks to data and analytics, our marketers have a much more intimate picture of who their audiences are.
- \_ We increased our customer targeting capabilities through automated segmentation, which allows us to personalize our content to specific audience needs.
- \_ The goal is to trigger a shift in organizational thinking away from traditional marketing channels toward digital media.

## Top trends transforming travel

In 2018 we started working with some of our communication partners to highlight 10 key travel consumer and technology trends. We drew on expertise from within Amadeus – including the Corporate Strategy team, APAC’s Future of X research, a number of thought leadership research papers and articles published by various business units, and expert spokespeople – as well as external desk-based research. The topics are a balance of Amadeus’ business and offerings, and provide insight and inspiration for customers and other stakeholders. The top trends for 2020, unveiled in December 2019, are shown in the diagram.

## The top trends transforming travel in 2020

### 1 You’ve got mail

Using AI and machine learning to communicate with customers



Today, artificial intelligence (AI) is increasingly used to respond to customers quickly and provide valuable information if a human customer service rep isn’t available. As carriers strive to grow their footprint while delivering fast customer service, many will continue to trial direct bookings and communication with AI via channels like text and WhatsApp.

### 2 If it’s not online, it never happened

Social media influence when booking travel



With social media taking an increasing hold on society, travel industry players are working to provide a similar experience. Among younger generations and emerging economies, the smartphone has usurped the laptop as the travel research, booking and content sharing platform of choice, so travel companies must think mobile-first throughout the user experience.

### 3 Higher ground

Sustainability and conscious travel



Sustainability has become a deciding factor for individuals purchasing travel and accommodation, and travel companies are adapting their offers to reflect this. From reducing plastic in hotels, to the creation of sustainably focused package holidays, consumers are offered a wide choice when it comes to an eco-stay and are starting to hold companies accountable if they don’t meet requirements.

[#2020TravelTrends](https://amadeus.com/en/insights/blog)



## 4 A million ways to pay

Fintech innovation and alternative payment methods



Global fintech innovation is happening at a rapid pace and there are now more than 300 different ways to pay for travel across the world. By embracing new platforms and technologies, travel companies can easily accept the widest range of alternative payment methods to help improve the customer experience and reduce costs.

## 5 Going solo

A rise in single travel



Being single has long been considered temporary. But marriage rates are declining, and the singles population – those never married and those divorced – is rising globally. Travel brands need to adjust their offer to meet the needs of these travelers – as traveling solo doesn't necessarily mean traveling alone – and hospitality brands must cater for a desire for social interaction and the need for solitude.

## 6 (Travel) pillow talk

Voice assistants to transform travel



Natural conversation – particularly voice – is predicted to play a key role in the customer experience as a major shift is taking place between human and computer action. We see it in our everyday lives with voice assistants in our homes and on our mobiles, but in the travel sector the customer experience will be transformed by voice technology.

## 7 Super apps

Big potential to drive travel sales



Super apps – a single app that includes multiple apps – is one area that's growing in popularity, as users can connect to social media, shop, order food or taxis, buy tickets, book rooms, and more. We can expect mobile content and apps to develop even further as 5G networks and devices become more prevalent.

## 8 There and back again

VR and travel



Virtual reality (VR) is going to play a huge role in the travel industry. As headsets become more affordable, travel companies are starting to use VR more and more – even bringing travel to those who might not be able to go abroad. VR has the ability to truly enhance travel, by challenging tradition with a sensory and revolutionary experience.

## 9 Fair-weather friends

Why old rules don't apply to traveler loyalty



Traveler loyalty will be a major battleground with technology a key differentiator. Travel brands will need to invest in technology to connect with customers, win their loyalty and lower acquisition costs.

## 10 Machines can't replace the human touch

Humanity is crucial to creating experiences



While technology will provide unprecedented support for travelers, predicting behavior, anticipating potential problems and providing solutions, people still prefer to deal with people. Travel brands need to ensure they maintain a balance to deliver the best customer experience.





## People and Culture awards 2019



### Top Employer

Top Employer Institute  
Office: Spain



### Top Employer

Top Employer Institute  
Office: Germany



### Top Employer

Top Employer Institute  
Office: UK



### Top Employer

Top Employer Institute  
Office: Thailand



### Top Employer

Top Employer Institute  
Office: Singapore

### Amadeus Labs certified as a Great Place to Work

Great Place to Work  
Office: Bengaluru

### Top 50 Great places to work in the IT & ITES sector

Great Place to Work  
Office: Bengaluru

**Top Organization with Innovative HR Practices**

Asia Pacific HRM Congress  
Office: Bengaluru

**Next Generation Women Leaders 2019**

Zinnov Management Consultants  
Office: Bengaluru

**India's first woman Google Developer Expert**

Google  
Office: Bengaluru

**Best Employer - Tech Companies – 10th place**

Capital  
Office: France

**Best Work/Life Balance – 4th place**

Glassdoor  
Office: France

**Best Employers for Women**

Forbes  
Office: USA

**Best Employers for Diversity**

Forbes  
Office: USA

**America's Best Employers by State (Florida)**

Forbes  
Office: USA

**America's Best Midsize Employers**

Forbes  
Office: USA

**Global 2000**

Forbes  
Office: USA

**Finalist in the Business Leader of the Year category. Finalist in the Business role Model of the Year category**

Women in IT Awards New York  
Office: USA

**Top Arbeitgeber Mittelstand**

Focus & Kununu  
Office: Germany

**Top Karriere Chancen & Top Karriere Chancen IT Spezialisten**

Focus & Focus Money  
Office: Germany

**Top National Employer**

Focus Business  
Office: Germany

**Top Company**

Kununu  
Office: Germany

**Open Company**

Kununu  
Office: Germany



MOST ADMIRED TRAVEL TECHNOLOGY COMPANY

**Most Admired Travel Technology Company**

The Beat Readers' Choice Awards  
Office: USA



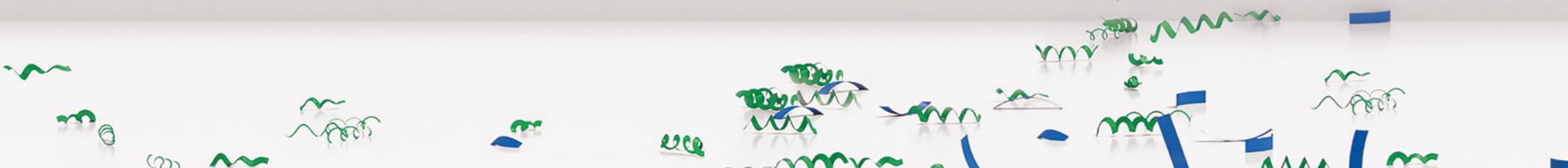
**Fair Company**

Handelsblatt & Wirtschaftswoche  
Office: Germany



**Germany's Most Desirable Employer 2019**

The IMWF Institute of Media and Economic Research in collaboration with *Frankfurter Allgemeine Zeitung*  
Office: Germany



# Social responsibility

## CHAPTER 5

### 5.1 Building a more responsible future

Our corporate social responsibility (CSR) strategy is to bring together our technology and our people in programs and partnerships that can make a real difference. Our objective is to help build a more responsible travel and tourism industry by fostering long-term development in the communities where we operate.

Amadeus Corporate Social Responsibility is the global framework through which we deliver this positive change, supporting socio-economic development, education, entrepreneurship and employment in those communities. We have a wide array of projects designed to respond to local needs, based on the three strategic pillars of our global CSR framework:

#### Technology for Good

In partnership with our customers and global non-governmental organizations (NGOs), we provide technology and data solutions to help them meet their commitments toward inclusive social development. Since 2013, we've worked together with UNICEF to maximize its impact and reach through fundraising, predicting how best to respond to natural disasters and emergencies and giving it exposure to global audiences.

#### Knowledge & Skills Transfer

Together with local governments, our customers and development organizations, we help people get the skills to succeed in the digitalized travel and tourism industry. Our objective is to increase the employability of our beneficiaries through travel and tourism training and digital inclusion.

#### Community Support

We engage our employees and customers in a great variety of community support programs around the world, supporting local socio-economic initiatives that facilitate long-term growth at community level.

To reach our social goals, we promote a collaborative approach to CSR. Amadeus occupies a unique position in the industry and partners with intergovernmental/non-profit organizations, educational institutions and public/private sector leaders to amplify the impact of our CSR projects. We also participate in networks such as the United Nations Global Compact, the world's largest corporate sustainability initiative, to strengthen our commitment to sustainability and the 10 universal principles on human rights, labor, the environment and anticorruption. We are also founding Board members of the Global Travel and Tourism Partnership (GTTP), which promotes opportunities in the travel and tourism industry for young people.

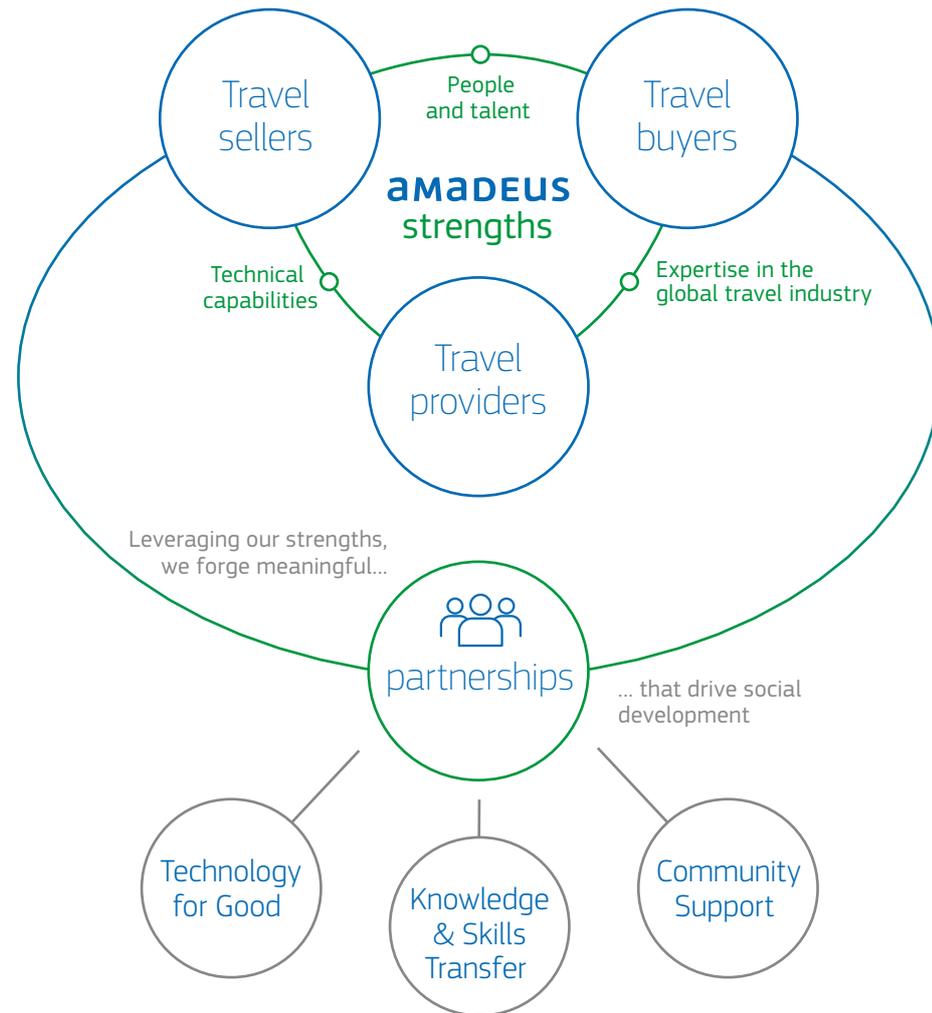




As part of Amadeus Volunteer Day, volunteers in Bangkok planted 500 mangrove plants.

## Commitment to society

By connecting players, Amadeus occupies a unique position in the travel industry



## 5.2 Our achievements in 2019

Our ambition for 2019 was to bolster our social responsibility engagement by increasing the impact and reach of our strategic projects and leveraging our core strengths more systematically. In 2019 CSR activities were rolled out in 64 sites (48 countries), where over 80% of staff are based.

### Examples of social KPIs achieved in 2019

	2017	2018	2019
Staff involved in projects	3,188	3,412	6,996
Technical equipment donated (computers, iPhones, etc.)	518	866	816
NGOs supported	129	107	83
Educational institutions supported	81	44	114

We've focused our efforts this year on empowering local NGOs and supporting educational institutions that can in turn have a multiplier effect. We've worked with organizations on long-term and strategic projects that can have a greater impact on our beneficiaries.

To channel the passion and enthusiasm of our people for social and environmental causes, we ran our internal campaign "Green is the New Blue." Nearly 7,000 employees shared their best green practices at home and at the office, contributing greatly to our internal and external commitments to global issues.

Campaign	Number of participating sites	Number of employees engaged/ made aware
Green is the New Blue	28	6,996
Amadeus Volunteer Day	59	2,702

This internal success led to the launch of the Amadeus Volunteer Day. In this first edition, 44 countries and over 2,700 Amadeus volunteers worldwide demonstrated with their hands-on engagement their ongoing interest in making a real and positive impact in our local communities.

We continued to focus on our commitment to key global CSR networks, such as the United Nations Global Compact.

We also further aligned our programs and activities with the United Nations Sustainable Development Goals (SDGs) [↪](#) in order to increase our efforts toward a more responsible global travel and tourism industry.

And we strengthened our partnership with Fundación SERES, a Spanish non-profit organization that helps companies increase their role as drivers of positive social change.

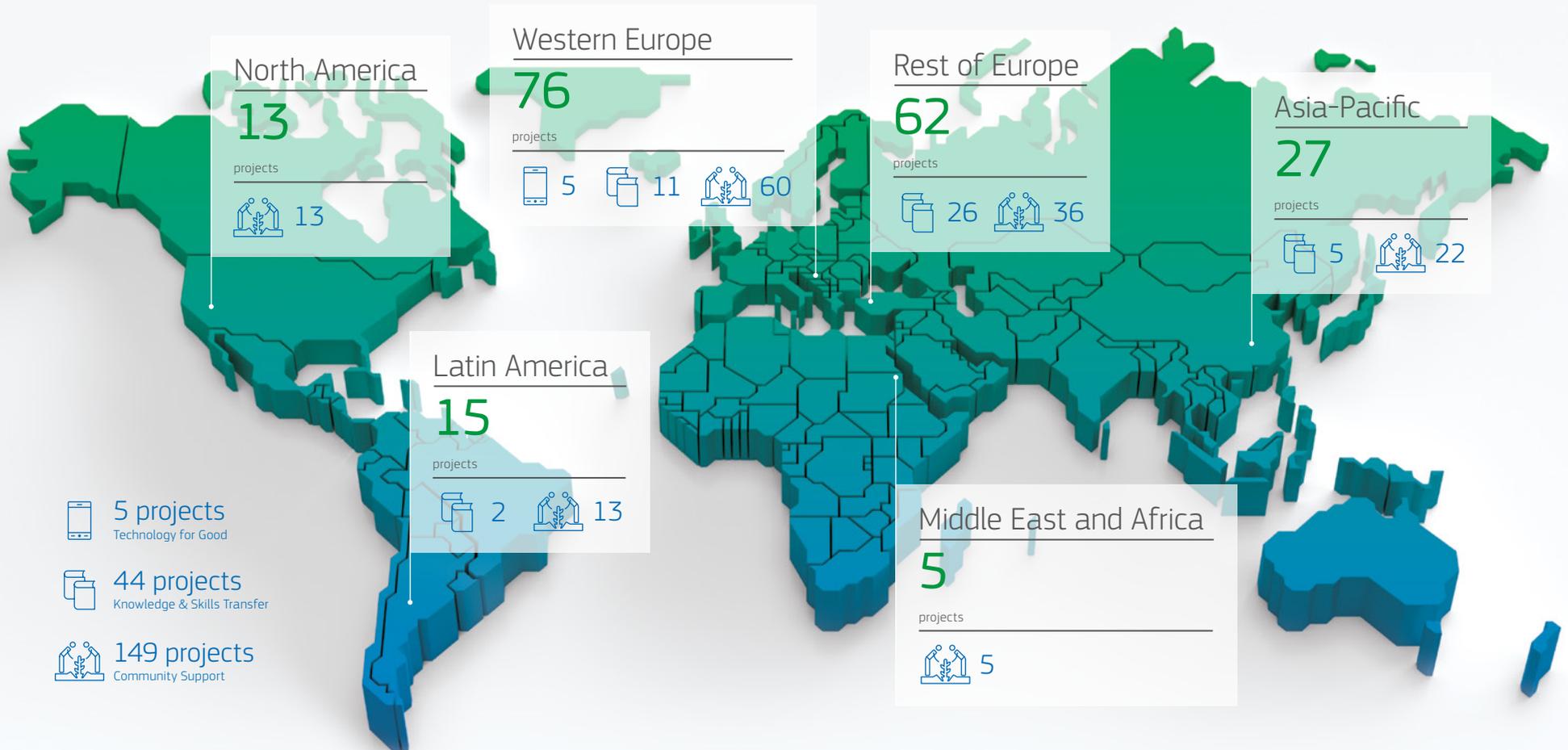


▲

In Miami, volunteers participated in a beach clean-up to remove marine debris from Bear Cut Preserve at Crandon Park.

[↪](#) See "Amadeus' contribution to the Sustainable Development Goals," p. 133.

Amadeus' social commitment in 2019: contributing to local development through technology, people and global travel\*



€1.81m

**Total value** of community investment\*

6,996

**Staff involved** in projects

210

**Institutions** empowered and supported

1,380

**Young people** trained and mentored

816

**Computers, monitors and iPhones** donated

€136k

**Raised through Click for Change.** Funds dedicated to UNICEF's education health care and emergency response programs

\* Amadeus has followed the LBG (London Benchmarking Group) methodology of community investment calculation since 2019.

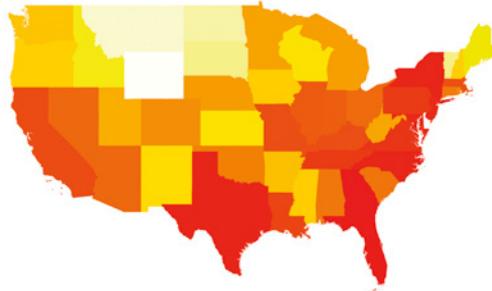
## 5.3 Technology for Good



Sample of a risk map developed to predict the spread of Zika

Predictions

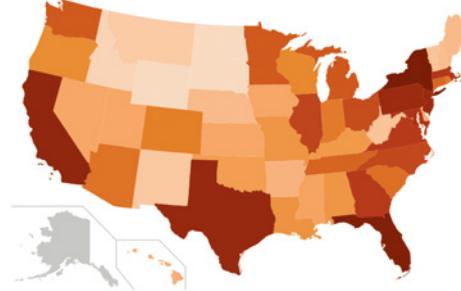
*Six months earlier*



UNICEF Data Science Prediction. August 2016.

Actual cases

Cases 2 — 1.01k



From: DirectRelief. Source: CDC. As of February 2017.

### Real-time predictive analytics to improve response to global emergencies

In collaboration with Amadeus, UNICEF's innovation team has developed a prototype for real-time predictive analytics to improve responses in humanitarian crises. This pioneering initiative, called "Magic Box," aims to better understand the impact of serious emergencies at the time they happen. It provides a technology platform that can rapidly analyze many complex data sources to predict, for example, the spread of epidemics.

Over the past few years, UNICEF has used Magic Box for Ebola response in Sierra Leone and the Democratic Republic of Congo, and for Zika, chikungunya and dengue response in Latin America.

### Click for Change: Tapping into the global travel market to empower young people

The Click for Change campaign is powered by the Amadeus Donation Engine, which gathers micro-donations from people buying travel online. Since 2013, almost USD 3.5 million has been donated by travelers purchasing travel products and services on our partners' websites, including Iberia, Finnair, Almuendo and Avianca. UNICEF channels these funds into multi-country programs that give thousands of children a fair start in life through education, health care and emergency response programs. The Click for Change funding improves UNICEF's ability to deliver results for every child, especially those at greatest risk and in greatest need.

### Increasing the reach of humanitarian campaigns through global travel communication channels

Using Amadeus' corporate and customer communication platforms, we launched three global UNICEF campaigns:

1. Cyclone Idai Emergency: to raise funds for 1.6 million children that needed urgent assistance – in health care, nutrition, protection, education, water and sanitation – one month after Cyclone Idai devastated parts of Mozambique, Malawi and Zimbabwe.
2. Children Uprooted: to raise awareness and funds for millions of children displaced by conflict, poverty or disaster.
3. Every Child Alive: to raise funds to end preventable newborn and child deaths.

Travelers responded positively to all campaigns, driving significant traffic to the UNICEF campaign pages.

## 5.4 Knowledge & Skills Transfer



### Shaping the future of talent for the travel and tourism industry

Amadeus' Knowledge & Skills Transfer program brings skill-building to young people in our local communities. We do this by providing free or subsidized industry-relevant training. We also engage with our industry partners and customers to identify skill and resource gaps, and to get their commitment to providing employment or on-the-job training opportunities to qualified candidates.

In 2019 1,380 young people benefited from our long-standing education-related projects. They received training and mentoring in travel reservation, tourism and business skills. Overall, Amadeus offices have ongoing partnerships with 114 educational institutions – universities, vocational training centers, schools and educational non-profit organizations – in 15 countries.

An example of such initiatives is our “train the trainer” activities in Russia. Thanks to our collaboration with local educational partners, we are giving young people the necessary skills to work in our industry.

### Increasing employability through public-private partnerships

We've been promoting training for employment projects in African and Latin American countries since 2016. The objective of these projects is to give people in vulnerable situations the practical skills to increase their employability in the travel and tourism industry.

In 2019 we promoted a multi-stakeholder partnership to develop employment training for people with disabilities in Morocco, which will be implemented throughout the period 2020–2023. The pilot will provide specialized training in industry-related topics to up to 100 people, enhancing their employability within the travel and tourism sector. By increasing the employment opportunities of people with disabilities in Morocco, we will be contributing to the long-term educational and socio-economic growth of the local community.

For this particular pilot, we are collaborating with AECID (Spanish Agency for International Development Cooperation) and ONCE (Spanish National Organization of the Blind), both very experienced partners in the development of international cooperation programs and the labor inclusion of people with disabilities, respectively. In addition, the National Federation of Travel Agents of Morocco (FNAVM), the Union for the Mediterranean (UpM), and L'Entraide Nationale will be key partners in the successful rollout of this initiative.

“Thanks to the contribution made by Amadeus, the partnership led by ONCE Social Group and AECID (the Spanish Agency for International Development Cooperation) in Morocco is a clear example of an alliance that help us, as an organization focused on solidarity with persons with disabilities, express the possibilities that public and private partnerships linked to the social action of an organization such as ours have at the international level, as well as for our model of cooperation for development. Innovation when financing and executing international projects is essential to activate and enable the kind of cooperation work we traditionally engage with. The public-private alliance for development that we have started with Amadeus is an example of this, as it will definitely promote the inclusion of women and young persons with disabilities in this country, and within a sector as relevant and with such high potential for growth for Morocco as tourism.”

*ONCE Social Group*

## Growing our commitment to the Global Travel and Tourism Partnership (GTTP) education program

In 2019 more than 710,000 students from 11 countries<sup>1</sup> participated in the GTTP curriculum. This unique education program introduces secondary school students to the travel and tourism

industry and its career opportunities. Since its launch in 1996, close to 3 million students have participated in the GTTP program.

The GTTP Annual Students and Teachers Conference was held at the Amadeus Executive Briefing Center in Sophia Antipolis in France. This year's theme was “Events Tourism.” Amadeus has a long-standing partnership with GTTP and is a founding Board member of the organization.

<sup>1</sup> Brazil, France, China, Hong Kong, Hungary, India, Ireland, Kenya, Russia, South Africa and Tanzania

## 5.5 Community Support



### Working in our local communities toward socio-economic growth

Through our Community Support initiatives, we engage with local communities to foster their socio-economic development. In 2019 we collaborated on 149 projects with 96 non-profit organizations and local authorities in 31 countries.

Our people find creative ways to help their local communities – from charity sports events to food and clothing drives to mentoring programs. In 2019 Amadeus staff dedicated 19,383 volunteer hours.

Amadeus employees in various sites have formed groups to analyze local needs and propose community support activities. Amadeus Cares in Bangkok and One Cause in Bangalore are just a couple examples of teams that have formed to work on causes that matter to Amadeus people.

### Increasing awareness and engagement of Amadeus employees on global issues: “Green is the New Blue” ↪

With our internal engagement campaign “Green is the New Blue” we enabled our people to share their ideas and their creativity on how to promote a greener future. Nearly 7,000 employees in almost 30 sites shared their best green practices, inspiring us to go green and protect the planet for future generations.

Some internal company enhancements were driven by the great ideas shared during this internal campaign – like our main facilities



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During the Sustainability Week in Nice, colleagues could learn about green initiatives taking place around the site.

↪ See “Engaging our People,” p. 68.

in Bengaluru with their #lovefoodhatewaste initiative. Food wastage was reduced by 40% thanks to segregation bins plugged into a digital display.

In our premises in Nice, we ran our Sustainability Week with initiatives like “Clean up, Green up!” – where 3,471 kilograms of paper, electronic waste and office supplies were recycled or donated to local charities thanks to special recycling bins made available all week.

### Global Amadeus Volunteer Day

In 2019 we launched the Amadeus Volunteer Day globally across 59 sites to engage as “one Amadeus, one cause.” Amadeus volunteers joined forces during their working day to make a positive impact on their local communities. In alignment with our growing commitment to a more responsible industry, we went a step further and linked our Global Volunteer Day this year to green causes.

In this edition, 2,702 employees dedicated their time and talents to volunteering activities in their local communities, such as cleanups, tree-planting and educational workshops. Amadeus volunteers worldwide showed their commitment to helping their local communities with positive action.



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In Kazakhstan, volunteers cleaned up a tourist facility at the Ile-Alatau National Park in the Almaty region.

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Amadeus volunteers in Romania participated in cultivating edible plants.



>

Amadeus volunteers in Costa Rica participated in a sea turtle conservation program.



>

Amadeus volunteers from our Waltham site worked with Cradles to Crayons to sort items donated to the organization that will impact over 500 children.



v

In Singapore, Amadeus volunteers cleaned up MacRitchie Reservoir and participated in a workshop on how to live sustainably.



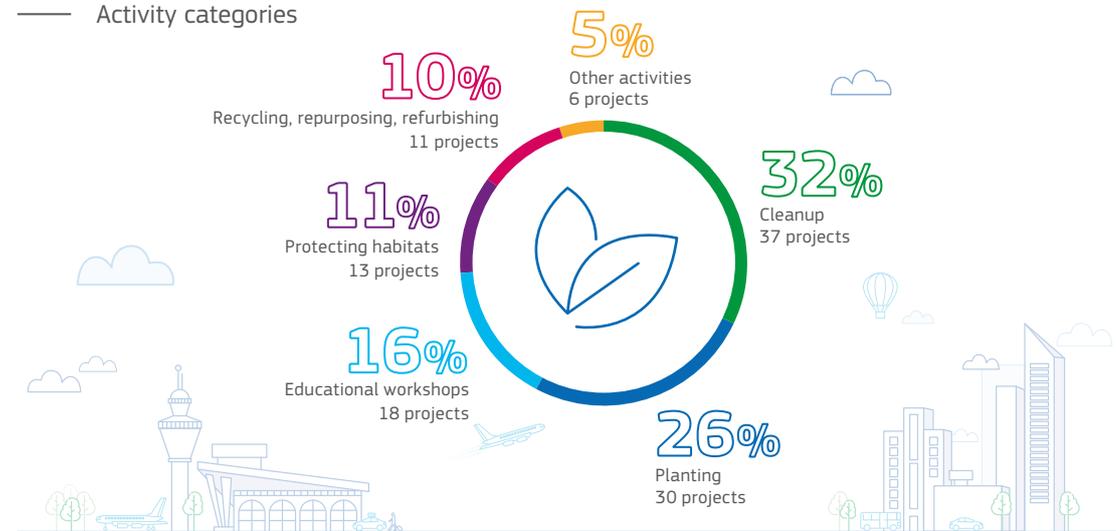
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In Greece, Amadeus volunteers participated in a beach cleanup at Alimos Beach in Palaio Faliro.

## Amadeus Volunteer Day 2019



### Activity categories



# Amadeus industry affairs

## CHAPTER 6

Amadeus' industry leadership comes with the responsibility of working with other stakeholders in the interest of the travel industry at large. We therefore engage regularly with governments, public entities, trade associations and other institutions globally.

The travel and tourism industry is becoming an increasingly strategic sector for the economies of many countries. For the industry to grow sustainably, governments and private stakeholders worldwide will have to pay more attention to how our industry improves its efficiency, reduces its carbon footprint and fulfills its potential as a catalyst for inclusive economic growth.

Tackling these challenges requires completely new models of collaboration between industry players and the public sector. Amadeus takes part in and often initiates industry debates on how collaboration should evolve.

We see travel technology as playing a key role in an increasingly digitalized travel and tourism marketplace, which means we have an important role to play as a facilitator for the global teamwork needed to shape and safeguard a sustainable travel industry.

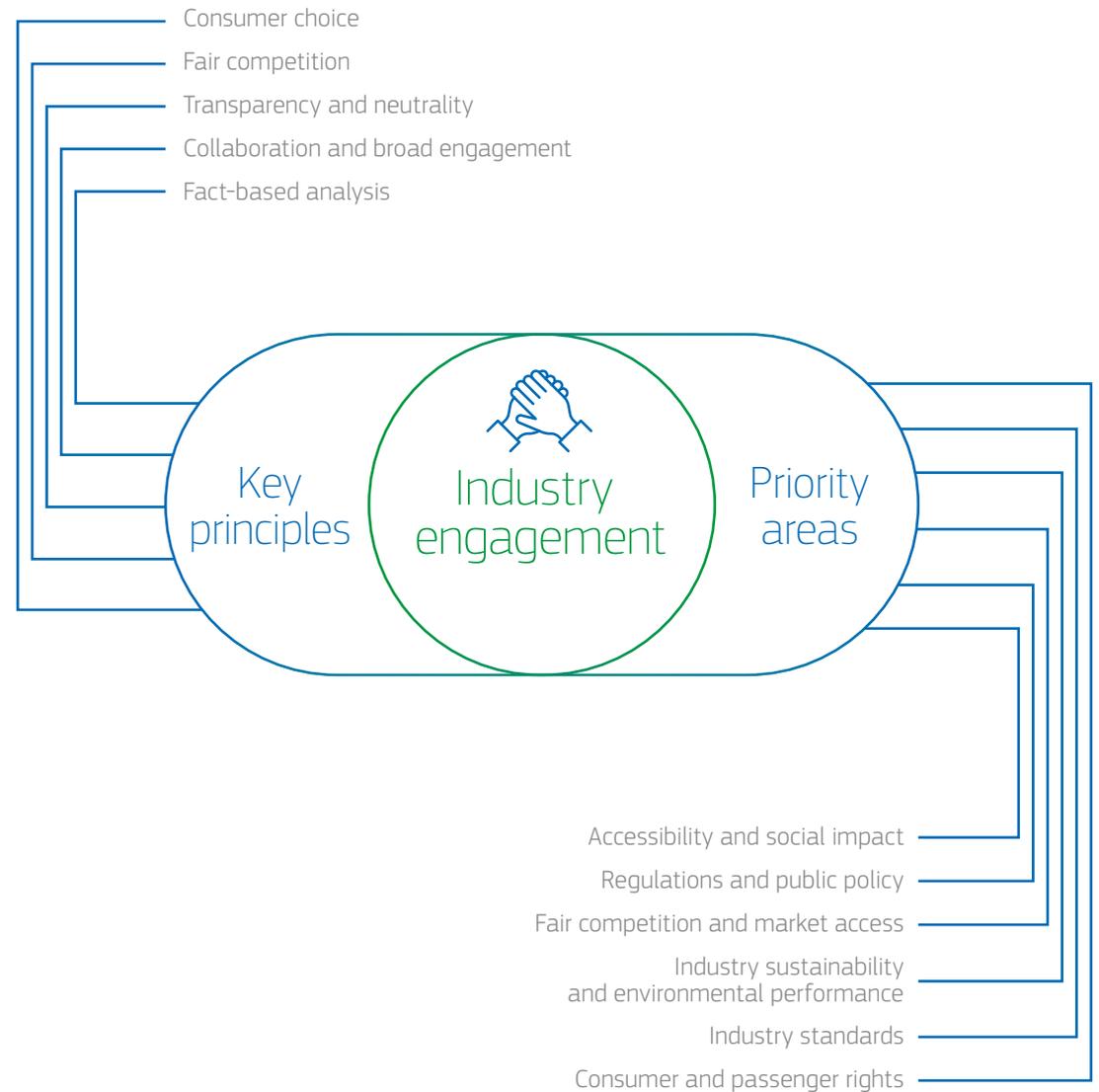
Amadeus' Industry Affairs unit works with stakeholders, public and private, across the global travel industry to build a common agenda based on the principles of neutrality and transparency, fair competition, consumer choice and respect for society. Our fact-based approach to working with our partners allows us to bridge differences as well as find solutions and standards that work for everyone in the travel value chain.

In line with these principles, we've launched joint industry initiatives with our partners in many areas, including environmental and social sustainability, regulatory and industry matters, and consumer protection.





## Our approach to industry engagement



We believe in transparency and choice within a neutral marketplace to serve the consumer's best interests.

## Sharing our insight and balanced perspective with public stakeholders



Amadeus contributes to regulatory reviews in the transport, tourism and technology sectors and provides input for policy initiatives.

The travel and tourism industry is complex, so we're proud to be asked to contribute to consultations, research studies and workshops sponsored by national and regional public stakeholders.<sup>1</sup> We share our experience, insight and balanced perspective, always supported by evidence and fact-based analysis.

In the EU, the new European Commission brings a review of existing policies and regulations in areas of strategic importance for Amadeus:

1. Review of strategic priorities for the aviation and transportation sector, established in the 2011 Transportation White Paper, and review of key air travel regulations that impact Amadeus. Multimodality will bring a new vision and policies in this respect.
2. The European Green Deal shows that the new Commission is committed to establish environmentally sustainable priorities. Amadeus has many opportunities in this field.
3. The recently published EU Digital Strategy brings new opportunities in artificial intelligence and cloud technologies. These are very much in line with Amadeus business and show that we make a valuable contribution to the travel and tourism industry.

In the US and other markets, our work focused more on industry collaboration.

Below are initiatives in which we've actively participated during the year.

<sup>1</sup> Amadeus adheres to the European Union's Transparency Register: <http://ec.europa.eu/transparencyregister/public/consultation/displaylobbyist.do?id=193056815367-44>.

## Promoting transparency, neutrality and fair competition in the air travel and distribution market

In 2019 Amadeus worked closely with the European Commission and the European Parliament in an advisory capacity to offer balanced, fact-based views on how best to develop the complex and challenging aviation marketplace.

The air travel distribution market is currently facing some threats to transparency, fair competition and consumer choice. New non-neutral players and the commercial strategies of certain incumbents challenge the open and competitive air distribution market that the global distribution systems offer. This development affects primarily the ability of SME players to compete in the market, as well as consumers' ability to make the best purchasing choices in the absence of transparent comparison.

In 2019 Amadeus was especially active in responding to requests for information and support for policy initiatives relating to airline and digital distribution issues in the aviation sector. In this context, the regulatory reviews of the Common Rules for the Operation of Air Services (Regulation (EC) No. 1008/2008) and the Code of Conduct for Computerised Reservation Systems (Regulation (EC) No. 80/2009) were of utmost importance. Amadeus provided balanced views on the need to ensure a level playing field in the air ticket distribution markets by safeguarding transparency, neutrality, fair competition and consumer choice.

## Bringing expertise and technology to build a digital and sustainable transport system

In 2019 Amadeus continued to support the public sector and the industry in establishing a smart and efficient transport system through innovation. We contributed to this important objective by participating in constructive dialogue with industry players in addition to sharing our technological expertise.

Amadeus supports the development of seamless multimodality that favors greener passenger transport and contributes to the digitalization of the industry. In the EU, Amadeus and industry partners engaged in technology research and development projects co-funded by the European Commission. These included Shift2Rail's long-term Innovation Program 4, which aims to provide a new seamless door-to-door travel experience for customers. The idea is to integrate rail with other modes of transport using a new and

innovative technology framework that enables an ecosystem of transport providers, distributors, retailers and customers.

Amadeus also encourages dialog and collaboration between industry partners and the public sector to enhance the transport system and implement new technologies such as digital identity.

Among others, in 2019 we worked on the Security and Travel Facilitation industry initiative sponsored by the World Travel and Tourism Council (WTTC). This initiative encourages the use of biometric and digital identity technology throughout the travel and tourism sector so that travelers can enjoy a seamless, secure and efficient end-to-end journey.

We also raised awareness and promoted positive policy discussions around this topic through our participation in public policy discussions like the WTTC's Seamless Traveller Journey forum in the European Parliament.

Amadeus has also been invited to participate in industry conferences organized by the Transport Area of the Florence School of Regulation (FSR Transport), the European excellence center that fosters discussion for better regulation, to provide input to the European Commission in their review of transport policies and regulations applicable to the airline ticket distribution market and to the EU's multimodal transport system.

## A European digital champion in travel and beyond

Amadeus is a true European digital champion. Our commitment to technology has been recognized as the second largest among software companies in the EU by the European Commission's 2019 Industrial Research and Development Scoreboard.

Our continuous investment in technology has given us the digital capabilities and expertise needed to work on top public sector initiatives. This includes our advisory work on the European cloud and our work with several artificial intelligence public-private initiatives in Germany and France. As an example of the latter, in France Amadeus is leading the Industrial Council for AI research (ICAIR) and is a member of the 3IA Interdisciplinary Institute of Artificial Intelligence that was established in Sophia Antipolis in 2019.

## Commitment to protecting passenger rights and consumer choice

Passengers and consumers are important stakeholders in the EU's transport and travel distribution policies and regulatory initiatives.

Policy makers are increasingly sensitive to consumer issues in digital markets and are putting in place revised policies to ensure consumers' access to transparent data.

In this respect, we've actively engaged in conversations about how regulation and market consolidation impact the consumer. Our aim is to ensure consistency across different policies and regulatory initiatives, to safeguard the right to relevant, transparent travel information and to balance regulatory mandates with the market realities of the industry.

Current market developments threaten SME players' capability to compete and consumers' access to transparent information on travel options.

## Working toward an innovative and sustainable tourism sector

Amadeus is a strong supporter of governmental policies and initiatives that encourage a robust and sustainable tourism sector. We engage with other travel industry and public stakeholders at national and regional levels and work to promote innovation, entrepreneurship and collaboration in travel and tourism.

During 2019 Amadeus was invited to speak at several events around the globe, with a special focus on digital-related issues and tourism.

In our advisory role in the technology and digital marketplace, we worked with the Organisation for Economic Co-operation and Development (OECD) in their tourism and SME initiatives to support the development of a digital tourism sector. We highlighted the need for SMEs to remain competitive through innovation within a fair and competitive marketplace.

We also provide qualified input and advice to the OECD in their studies on subjects such as competition in air passenger services, digitalization of SMEs and digital tourism.

Amadeus is a signatory of the European Tourism Manifesto, which recognizes that tourism is an important driver of economic and social development. On the eve of a new European Commission, Amadeus signed a letter together with other manifesto supporters to the president-elect of the new commission to advocate for the creation of a strong tourism policy. A holistic European approach is needed to promote the competitiveness of the tourism sector and to create a favorable environment for its growth and development.

We also participate in multiple initiatives at market level in Europe sponsored by public and industry stakeholders, providing advice and support to digital transformation initiatives undertaken by travel companies. For example, Amadeus is working in Spain with industry

stakeholders and the government on DIGITUR, a project that supports the digitalization of tourism destinations.

## Engaging private sector and trade industry stakeholders



In the vast landscape of different private sector and trade industry stakeholders in travel and tourism, Amadeus engages with selected players in an open and constructive dialog on industry issues.

We collaborate in our own trade associations and partner with our airline and travel agency customer organizations to work toward common public policy goals. As an active partner, our door is always open, and we maintain strong and close relationships with institutional stakeholders, consumer advocates and many other travel and tourism associations<sup>2</sup> across the globe.

### Travel technology associations championing fair competition, neutrality and transparency

At industry level, Amadeus is represented through our memberships with EU Travel Tech (formerly the European Technology and Travel Services Association, ETTSA) and the US Travel Technology Association (Travel Tech). These two associations represent the indirect neutral distribution<sup>3</sup> industry on regulatory and industry matters in the EU and the US, respectively.

In late 2019 ETTSA changed their name to EU Travel Tech, with a new management team, a revised strategy and a stronger political footprint.

<sup>2</sup> Amadeus works with private and trade associations around the globe. Our total expenditure in memberships and consultation under this category is reported in the European Union's Transparency Register: <http://ec.europa.eu/transparencyregister/>.

<sup>3</sup> Indirect distribution refers to air tickets sold outside of airline's own ticket channels for example through travel agencies.

The enhanced association was particularly active in engaging on key issues related to aviation and air ticket distribution, such as the regulatory reviews of the Common Rules for the Operation of Air Services (Regulation (EC) No. 1008/2008) and the Code of Conduct for Computerised Reservation Systems (Regulation (EC) No. 80/2009). During those reviews, EU Travel Tech and its members have maintained a close dialog with the European Commission and the European Parliament to ensure that the following continue to be guaranteed in the revised regulation and potential policy guidelines:

- \_ Transparency
- \_ Consumer choice
- \_ Access to neutral information
- \_ Non-discrimination
- \_ Fair competition

These are principles that have duly protected European consumers and fostered competition in the airline distribution marketplace in the past decades.

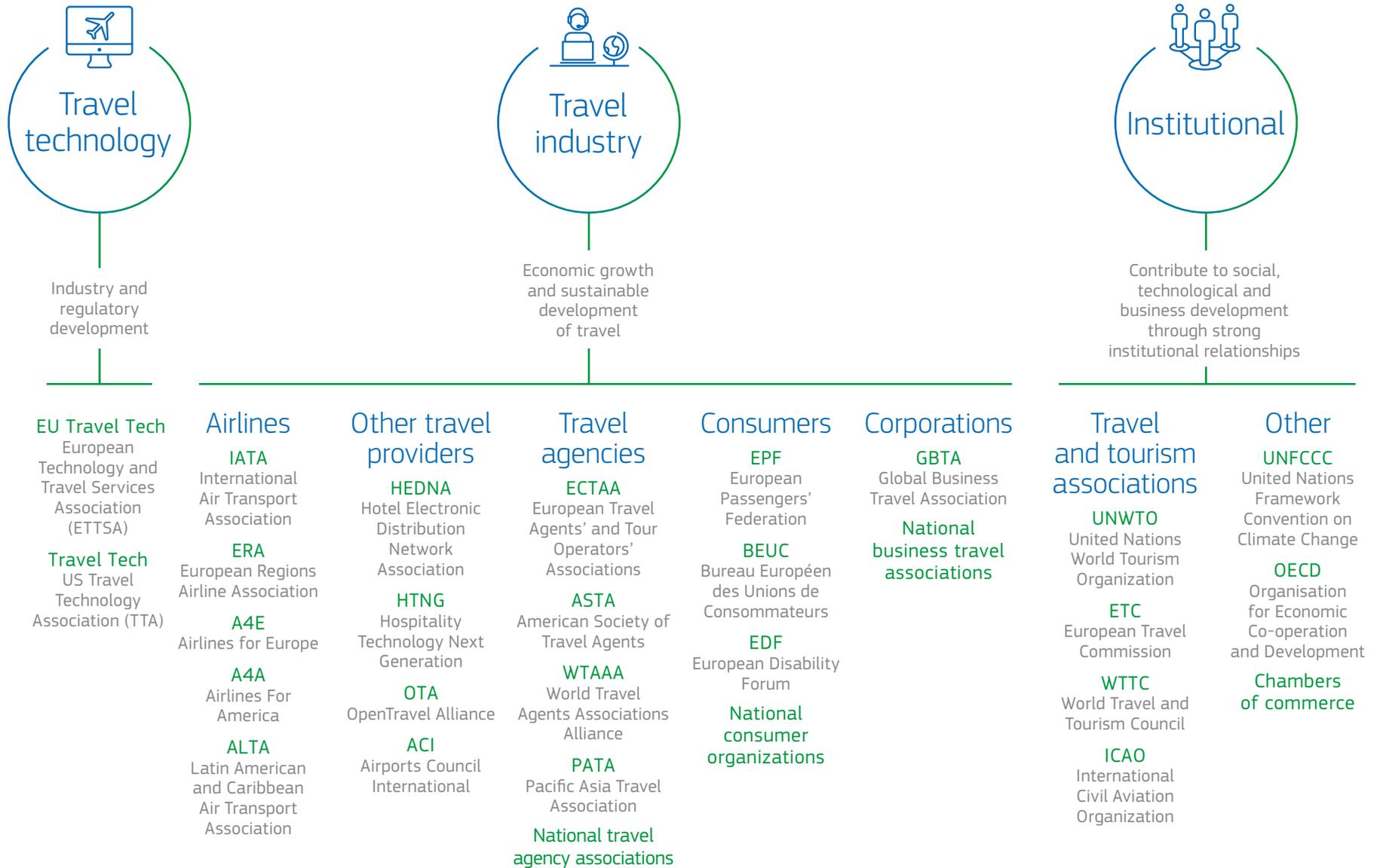
EU Travel Tech also actively engaged other allies representing travel agencies, passengers and travel buyers to form a coalition to protect neutrality, transparency and fair competition in the airline distribution market. This highlights that access to neutral and transparent travel information provided by the global distribution systems enables comparison and choice for European citizens and stimulates competition among airlines based on their merits, resulting in lower ticket prices.

EU Travel Tech's contribution to opening and fostering an active industry dialog with other public sector and travel industry stakeholders will continue to be factual and supported by proper research. The studies<sup>4</sup> conducted on relevant market developments in the airline distribution market are being refreshed, reflecting the recent commercial initiatives by large airlines and their impact, especially on the way consumers compare and buy airline tickets.

In North America, Travel Tech advocates for public policy that promotes fair competition, industry standardization and improved price transparency for consumers.

<sup>4</sup> All studies available at <https://eutraltech.eu/publications/>

Mapping of Amadeus stakeholders in the private sector and travel industry



## Working with trade associations on common agendas



Amadeus builds strong relationships with industry trade associations that represent the interests of our customers and other stakeholders in the travel sector.

### Promoting universal and business model-neutral standards with airline associations

Amadeus is a long-time strategic partner of the International Air Transport Association (IATA), and we engage actively with the airline community in the development of industry standards.

We share advice and knowledge relating to Amadeus' areas of expertise through IATA's various working groups, advisory forums (New Distribution Capacity (NDC), Passenger Distribution Management Group Advisory Forum (PDMG AF) and Transparency in Payments (TIP)) and think tanks (Airline Industry Retailing (AIR), One Order, One ID and Simplifying the Business (StB)).

Our active engagement in the development of new industry standards is needed to ensure that IATA's standards<sup>5</sup> improve the efficiency of the airline distribution value chain and take into account the needs and requirements of all stakeholders. Amadeus and industry stakeholders promote standards that are non-discriminatory in nature, developed without favoring any one player or business model over another.

To ensure broad industry engagement, Amadeus is also a member of the Airline Distribution Stakeholder Forum (ADSF), an open forum comprising trade associations in indirect airline distribution, including travel agencies.

During 2019 ADSF and the newly formalized and operational Distribution Industry Standards Working Group (DISWG) directly engaged with IATA on developments of the agency accreditation

models, IATA's settlement systems (NewGen ISS) and proposed industry standards on payments (Transparency in Payments (TIP)).

Amadeus' and industry stakeholders' efforts in this area have resulted in the formalization of IATA's Distribution Advisory Council (DAC), with independent distribution stakeholders now well represented. This council is especially noteworthy in that, after persistent insistence by Amadeus, it now brings together all airline distribution stakeholders (airlines, agencies, and global distribution systems and other IT providers) in a formal and IATA-sanctioned group to address strategic issues and overall industry evolution.

The continued efforts of ADSF, DISWG and the newly formed DAC are now known as the Airline Distribution Advisory Forum (ADAF). The work of this forum demonstrates the benefits of broader industry collaboration on standardization processes by consolidating the views of experts from the indirect distribution industry on how standards should be developed for optimal impact and wider adoption in the marketplace, while serving the needs of all stakeholders.

### SME airlines at the heart of a competitive market place

In 2019 Amadeus joined the European Regions Airline Association (ERA), reinforcing our commitment to supporting SME players in aviation.

As a member, we advise the association on relevant EU industry and policy topics. Through participation in workshops and an industry affairs working group, we share our expertise on topics such as digitalization, connectivity, distribution and sustainability, ensuring that SME players remain competitive and relevant in the European aviation sector.

### Close collaboration to bring value to the travel agency community

The travel agency community is a very relevant partner for Amadeus to develop common industry initiatives related to key policy areas.

Amadeus works closely with the travel agency community across the world, represented by the World Travel Agents Associations Alliance (WTAAA), of which the European Travel Agents' and Tour Operators' Associations (ECTAA) and the American Society of Travel Agents (ASTA) are the most important members.

As an allied member of ECTAA, we work together in areas of common interest relating to air travel distribution, strategic guidance on the development of industry standards, and the

<sup>5</sup> T2RL (2019). *Technology – Innovation and Standardisation in the Airline Industry*.

establishment of a sustainable tourism sector. To do so, we conduct joint research studies, and we establish open and transparent dialog with other industry parties in working groups and advisory forums.

We also partner directly with travel agency associations at both regional and national levels in the rest of the world. These organizations are important advocates for the travel industry as a whole, supporting transparency and neutrality, fair competition and the development of a sustainable travel and tourism sector.

## Our representation in the travel buyer community

Amadeus is an allied member of the Global Business Travel Association (GBTA) and we collaborate closely with GBTA affiliates and other business travel associations in many countries.

As GBTA's partner, we support their industry events and awareness-raising and training initiatives, and we work together on industry issues of common interest.

Comprehensive access to neutral, transparent and comparable travel content is a key requirement for travel sellers and buyers, and both the travel seller and travel buyer communities are strong proponents of fair competition and consumer choice driven by a neutral and transparent marketplace.

## Protecting consumers in the travel industry

Amadeus has built an active dialog with consumer and passenger associations to jointly promote a transport marketplace in which consumers can compare offers and choose among competing providers, thus benefiting from a competitive and efficient marketplace.

During 2019 we engaged especially with the European Passengers' Federation (EPF), the European Consumer Organisation (BEUC), the European Disability Forum (EDF) and national consumer representatives – the voice of European consumers on issues related to the airline distribution marketplace.

In our role as Board member of EU Travel Tech, we participated in the General Assembly of EPF in Gdańsk, Poland and gave a presentation on the technological benefits and enhanced competitive dynamics that global distribution systems grant.

We've also been asked to share insights about the regulatory framework protecting consumers; how technology facilitates the passenger experience; and how indirect distribution is safeguarding fair competition among airlines and giving consumers neutral and transparent choice.

## Public-private sector partnerships transforming the industry

In the tourism sector, we work closely with the United Nations World Tourism Organization (UNWTO), of which Amadeus is an affiliate member.

During 2019 we continued our partnership with UNWTO to promote sustainable development in the sector through the following joint initiatives:

- \_ Sustainable transport and tourism systems
- \_ Digital transformation of the industry
- \_ Poverty reduction and social inclusion through employment in travel and tourism
- \_ Climate-neutral tourism growth

Under this collaboration, we shared our expertise on innovation, start-ups, smart destinations, social issues and sustainability in dozens of forums with public and private stakeholders in the travel and tourism industry.

Amadeus is a full member of the WTTC in support of the broader travel and tourism industry, which generates over 10% of global GDP. Specifically, we've been directly engaged in thought leadership sessions on key concepts such as:

- \_ Interoperable and consumer-centric industry standards
- \_ Open and transparent collaboration frameworks in support of security and travel facilitation
- \_ Leveraging digital technologies and biometrics
- \_ Sustainable growth for our industry

And in 2019 Amadeus was also a key partner of the WTTC Global Summit, held in Seville, Spain.

As an associate member of the European Travel Commission (ETC), Amadeus supports a broad range of activities related to strengthening the tourism industry in Europe as an engine of economic growth and employment. We do this through multi-stakeholder collaboration, technology to support travel destination development, and joint research on key industry topics.

## Institutional relationships in key markets

Amadeus engages with government institutions and industry associations to contribute to the economic, social and technological development of several markets around the world. This allows us

to build strong institutional relationships, strengthen stakeholder networks in key markets and receive valuable information that is essential to understanding the key business and regulatory issues in the local markets.

Amadeus holds the presidency of the Spanish-Turkish Chamber of Commerce and Industry. We are also a member of the Spanish Chamber of Commerce in both South Africa and Japan; of the EU Chamber of Commerce in China, Taiwan and South Africa; and of the Spanish Business Council in Dubai.<sup>6</sup>

## Participation in industry initiatives and events



As a trusted adviser willing to share insights and views, Amadeus is invited to participate in many sector initiatives and events across the world. We actively participate where we can make a meaningful contribution to a fact-based dialog and learn from exchanging views on factors affecting travel and tourism.

This engagement allows us to increase our visibility and build new relationships with governmental and industry representatives globally, while simultaneously enhancing Amadeus' profile as a leading and innovative technology partner for the travel and tourism industry.

The following are some examples of initiatives and events that took place in 2019.

### Discussing relevant EU transport regulations at the Florence School for Regulation

In May 2019, Amadeus participated in the Florence School for Regulation's Executive Seminar on the Code of Conduct for Computerised Reservation Systems and the European Commission's Directorate-General for Mobility and Transport (DG MOVE). It was focused on the impact of the regulation on the aviation market.

<sup>6</sup> Amadeus' memberships in interest organizations or trade associations don't constitute support for policy positions or initiatives these may take.

Amadeus gave a fact-based analysis of current and future market developments affecting competition and consumer choice in the airline ticket market. We highlighted the need for a level playing field for all competing players in the airline ticketing distribution market and to increase transparency for travelers through non-discriminatory access to airline content in the ongoing reviews of airline and CRS regulations.

Later in the year, in September, Amadeus was invited to the sixth Florence Intermodal Forum organized jointly by the Florence School for Regulation and DG MOVE, gathering relevant private and public transport industry representatives. Our contribution focused on lessons learned from the Code of Conduct for Computerised Reservation Systems that could be used to define smart policies for a seamless multimodal transport system in the EU. The conclusions of the forum reinforced the strategic importance of non-discriminatory access to transport data in fostering the development of multimodal travel information services in the EU.

### Promoting capacity building for tourism destinations

As a part of our ongoing collaboration with UNWTO toward a sustainable tourism industry leveraging innovation, digital capabilities and big data, Amadeus joined the UNWTO Affiliate Member Product program.

Amadeus and UNWTO agreed on a framework for masterclasses to build up the digital and data capabilities of tourism destinations. 2019 saw the first Amadeus-UNWTO masterclass on data management, held in Vilnius, Lithuania in collaboration with the Lithuanian Tourism Ministry, for tourism professionals from all Baltic countries.

In Spain, Amadeus joined the Spanish network of smart destinations under the guidance of SEGITTUR, the Spanish public organization that promotes innovation and digitalization in tourism.

### Pioneering an innovative approach to build a robust and sustainable travel and tourism industry in South Africa

Amadeus joined forces with South Africa's National Department of Tourism and its Department of Industry and Trade to support the growing needs of the country's travel and tourism industry, with a commitment to sustainability and inclusive growth. This collaboration is consolidating an innovative industry alliance and strategic programs in South Africa.

This alliance aims to drive inclusive and transformational growth using a new data-driven digital platform. Through this platform, South Africa can build, promote and commercialize an expanded tourism offering. It can also curate and analyze tourism data for valuable insights into the services and business needs of industry players, to better service the needs of visitors.

With a special emphasis on the skills that the travel industry requires, as well as the use of digital and virtual training facilities, the active involvement of the industry in the Travel and Tourism Training Academy will ensure that training leads to employability for young South Africans, with a special focus on women. It will also bring much-needed professional skills and technology solutions to boost SMEs in the tourism sector, especially in rural areas.

### Industry collaboration on digital identity to leverage biometrics in travel and tourism

Amadeus has participated in an industry working group on biometric identification in travel and tourism led by WTTC. The new technology offers a significant opportunity to improve the traveler experience, realize the growth opportunity in travel and tourism, increase security and make traveling easier.

WTTC's goal, through their Seamless Traveller Journey program and in line with existing initiatives in this area, is to encourage the use of biometric technology and digital identity throughout the wider travel and tourism ecosystem. This will allow travelers to enjoy a seamless, secure and efficient end-to-end journey.

In this working group, Amadeus highlighted the need for industry interoperability, technological independence, a global standards framework and a managed, consumer-centric approach.

### Research partnership to empower women in tourism

Amadeus has joined forces with UNWTO, UN Women, the German development agency GIZ and the World Bank to produce the second edition of the landmark [Global Report on Women in Tourism](#).

The report provides a thorough assessment of how tourism contributes toward the United Nations Sustainable Development Goal 5 – to achieve gender equality and empower all women and girls.

It covers an extended geographical scope and includes in-depth industry analyses and case studies illustrating how women around the world are using tourism as a vehicle for empowerment and development.

### Partnering to promote an inclusive travel industry

More than 2 billion people around the world have accessibility needs. They want to be able to travel more and be better connected. And while at Amadeus we've been proactive in promoting and improving accessibility, we believe that inclusive travel can be best achieved through public and private sector partnerships.

In 2019 we partnered with the European Disability Forum (EDF), an independent, umbrella non-governmental organization that defends the interests of over 100 million persons with disabilities in Europe.

We had the opportunity to participate in and make a presentation to the EDF Annual General Assembly, and we continue to have an open dialog to identify further areas of collaboration.

### Amadeus at the fifth Summit of Travel Agencies Associations

Travel agencies are a key stakeholder in the air ticket distribution market and key in ensuring that travelers can compare travel offers in a transparent and efficient manner.

Amadeus keeps an ongoing and open dialog with the travel agency community and other industry representatives to exchange views about the state of play and key market developments affecting the sector.

In this respect, Amadeus participated in the fifth Summit of Travel Agencies Associations organized by the Spanish Confederation of Travel Agencies (CEAV) in Seville, Spain. We shared our views with 200 airline and travel agency representatives from all over the world about the key challenges in the airline ticket distribution market. The debate centered on the potential negative impact of growing airline consolidation on consumer choice, competition and market access.

# Environmental sustainability

## CHAPTER 7

In 2019 the level of awareness and action against climate change reached unprecedented intensity. This has been a pivotal year, in which social movements like “flight shaming” have strongly voiced concerns on the sustainability of travel and, particularly, of aviation. Consequently, the political and corporate will to address climate change is now higher than ever.

Travel industry sustainability and climate change in particular are global challenges by definition, and we need to work in cooperation to provide global solutions. In this context, Amadeus has been reinforcing its strategy to address environmental concerns – not only internally but also in cooperation with customers and industry stakeholders. Amadeus’ environmental sustainability strategy is based on three pillars: (1) the environmental efficiency of our operations; (2) the development of IT solutions that help our customers improve their environmental efficiency; and (3) partnering with industry stakeholders in joint sustainability initiatives in our industry.

## 7.1 Environmental efficiency of Amadeus operations

The first step in addressing environmental sustainability is to understand the environmental impact of our operations and to nurture a company culture that reduces environmental impact as much as possible.

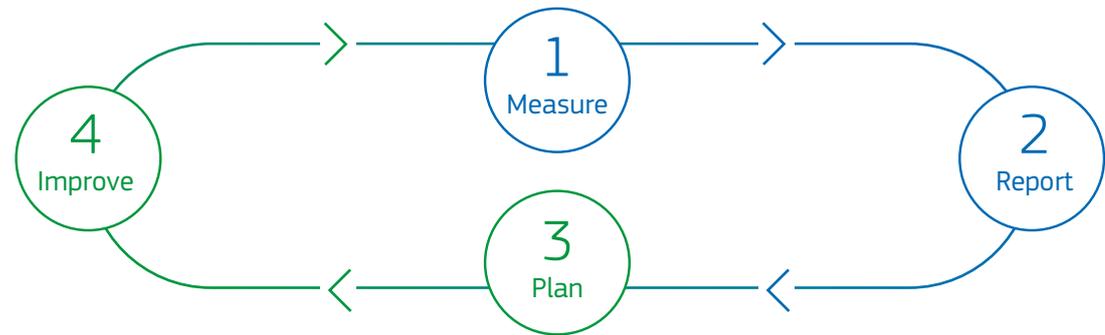
Amadeus introduced its materiality analysis tool in 2009 to identify and address the major causes of environmental impact in our operations. The materiality analysis is regularly updated with input from internal teams, advice from external consultants and benchmarks from other companies in similar sectors. The analysis is coordinated and led by Amadeus’ Sustainability unit.

In 2019 we carried out a full review of our materiality analysis, taking into consideration the impact of our





## Amadeus' Environmental Management System



most recent acquisitions, the evolution of the travel industry since the last full review of the materiality analysis in 2015, expectations from our stakeholders, and Amadeus' overall position in the travel industry.

Our use of office buildings across the world as well as the Amadeus Data Center have been identified in our materiality analysis as the main contributors to the environmental impact of our operations.

The infrastructure management team at the Data Center works toward the continuous improvement of the energy efficiency of this critical installation. Our initiatives in this area are based on recommendations from external consultants and on our own experts' analyses.

Elsewhere, the Building & Facilities teams at local level are responsible for the optimization of the use of resources at our office buildings. They are supported in specific cases by technical teams that, for example, provide key performance indicators relating to the use of resources.

## Amadeus' Environmental Management System

Amadeus' Environmental Management System (EMS) is the tool we use to measure, report and identify

best practices, as well as continuously improve the environmental performance of our operations.

## Material aspects of the EMS

We identified five material environmental elements:

**\_Energy use:** The most important component of our energy use is electricity. We measure electricity consumption at the Data Center and at our office buildings separately.

**\_CO<sub>2</sub> emissions:** We follow the Greenhouse Gas Protocol (GHGP)<sup>1</sup> standards to report CO<sub>2</sub> emissions:

- In Scope 1 we include emissions from natural gas and diesel. Fossil fuels at Amadeus are used mainly for heating purposes and to guarantee an uninterrupted power supply at the Data Center, through the use of a large generator.

<sup>1</sup> The Greenhouse Gas Protocol is the most widely used international accounting tool for government and businesses to understand, quantify and manage greenhouse gas emissions. The GHGP classifies emissions into three scopes. Scope 1: direct greenhouse gas emissions from sources owned by the company; Scope 2: indirect greenhouse gas emissions from electricity use; and Scope 3: emissions released by third parties as a consequence of the use of their services, such as emissions from travel providers for business travel.

- In Scope 2 we include emissions linked to the use of electricity<sup>2</sup> at our office buildings worldwide and at the Data Center.
- In Scope 3 we include emissions from paper consumption and from business travel. We gather information about business trips from our travel agency provider and we use the International Civil Aviation Organization (ICAO) carbon calculator to estimate emissions per passenger.

– **Paper consumption:** We use badge-based printing devices to calculate the amount of paper we use. These automated systems permit precise monitoring and facilitate the identification of areas for improvement.

– **Water use:** The use of water at Amadeus is divided into three categories:

- Office buildings (kitchens, toilets, etc.)
- Irrigation, in cases where we have gardens and the means of separately measuring irrigation-related consumption
- Cooling of IT equipment

– **Waste generation:** We generate waste at our premises from kitchens and from general office use. Waste is difficult to measure. The principal sources of information for reporting our waste are the recycling companies used by Amadeus. Waste generated by extraordinary activities, like works done in buildings, is generally measured, but for comparability reasons it is reported separately from regular waste.

## Geographical scope of the EMS

The EMS includes the reporting of the environmental impact of Amadeus operations. Amadeus has more than 100 offices across the world. Some of these workplaces are small and it becomes inefficient to measure and report the impact of all of them in a direct manner. Therefore, we have adopted a more efficient and pragmatic approach by which we report direct measurements of impacts in 15 of our largest sites (which represent approximately 70% of the total Amadeus workforce worldwide) and then we make an estimation of the impact of the remaining sites based on the average consumption factors of the 15 sites. This new methodology has been externally validated. It was implemented in 2018 and it broadens the scope of our reporting to 100% of our impact.

The EMS includes the environmental reporting of some of the largest Amadeus sites by number of employees:

1. Nice, France
2. Bengaluru, India

<sup>2</sup> The conversion factors applied, i.e. the amount of CO<sub>2</sub> emitted per kWh used, are obtained from the latest updated averages for each country, published by the International Energy Agency in its publication *CO<sub>2</sub> Emissions from Fuel Combustion 2018*. Paris, IEA Publications, pp. 182–469.

3. Miami, United States
4. Erding, Germany
5. Madrid, Spain (headquarters)
6. London, United Kingdom
7. Bad Homburg, Germany
8. Bangkok, Thailand
9. Sydney, Australia
10. Paris, France
11. Madrid, Spain (Amadeus Commercial Office)
12. Singapore
13. Waltham, United States
14. Manila, Philippines
15. Portsmouth, United States

## Environmental performance in one single figure and commitment to continuous improvement

Amadeus has developed a tailored methodology to condense in one single figure our environmental performance compared with the previous year. This methodology takes into consideration the elements reported in the EMS, efficiency ratios and company growth – factoring in number of employees and transactions processed.

Summarizing environmental performance in one figure facilitates the reporting to and understanding of top management, providing the opportunity to analyze aggregated results at different levels without losing any visibility of the details of both the individual performance of each geographical site and the environmental element in question.

The process of summarizing all environmental data collected in one performance figure – as shown in the following diagram – is outlined below:

1. **Data collection** of the 5 environmental material elements from the 15 sites included in the EMS. Data is gathered in a homogeneous way across all sites to facilitate comparison. For each environmental element, we measure total consumption and efficiency ratios:
  - At the Data Center efficiency is measured in terms of electricity consumed per transaction processed<sup>3</sup>
  - At office buildings efficiency is measured in terms of consumption per employee and year

<sup>3</sup> In this context, transactions processed at the Data Center are defined as basic operations linked directly to our business. For example, bookings and passengers boarded processed.

Environmental performance in one single figure and commitment to continuous improvement

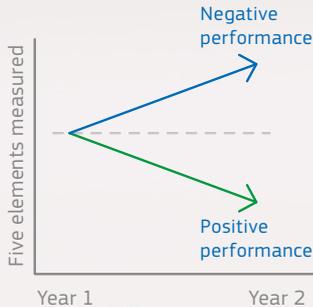
1 Data collection and verification

Five elements measured:

- \_Electricity
- \_CO2 emissions
- \_Paper
- \_Water
- \_Waste

- Bad Homburg, Germany
- Bangkok, Thailand
- Bengaluru, India
- Erding, Germany
- London, United Kingdom
- Madrid, Spain (2)
- Manila, Philippines
- Miami, US
- Nice, France
- Paris, France
- Portsmouth, US
- Singapore
- Sydney, Australia
- Waltham, US

2 Measured performance vs. previous year



3 Weighting of elements

(considering total consumption and capacity to manage)

- 40% Electricity
- 20% CO2 emissions
- 20% Paper
- 10% Water
- 10% Waste

4 Factoring in company growth

Growth in workforce and transactions

Adjusting targets according to company growth

- High Efficiency ratios (consumption per employee and per transaction)
- Medium
- Equal weight
- Low Total consumption

5 Leveraging components of operations

- \_Data Center: 40% of total impact
- \_Office buildings: 60% of total impact

Environmental performance vs. previous year in one single figure



- 2. **Measured performance versus previous year.** For each element analyzed in the EMS, we compare results with the previous year. Performance is calculated as a percentage change over the previous year, where an increase in consumption is considered negative and a reduction positive.
- 3. **Weighting of elements.** We allocate specific weightings to each element included in the EMS based on total consumption and on our capacity to manage each element. The weightings assigned are illustrated in the graphic on the previous page.
- 4. **Factoring in company growth.** Reducing resource consumption is easier when company growth is slow, and vice versa. Therefore, the evaluation of environmental performance takes into consideration company growth. When the company is growing rapidly, we assign more weight to efficiency ratios (resource consumption per employee or per transaction processed) and less to total consumption. Nonetheless, the trends in total consumption of resources are always considered, as the minimum weight allocated to the evolution of total consumption is 25%. On the other hand, in a context of slow growth, we assign more weight to total consumption of resources and less to the efficiency ratios.

- 5. **Leveraging components of operations.** Due to the different nature of their activities, we analyze environmental performance at the Data Center and at office buildings separately. Based on total resource consumption as well as on our capacity to influence performance, we allocate 40% of the overall environmental impact to the Data Center and 60% to office buildings. For the Data Center, we evaluate impact and performance based on energy consumption. For the office buildings, we take into consideration the five elements mentioned earlier: electricity, CO<sub>2</sub> emissions, paper, water and waste.

The process explained above is also used to set objectives and follow up on our performance. Our strategy is based on a combination of targets linked to the performance of the previous year, together with a long-term plan that guarantees continuous improvement and meeting long-term targets, like carbon neutrality.

### Environmental performance of Amadeus operations in 2019

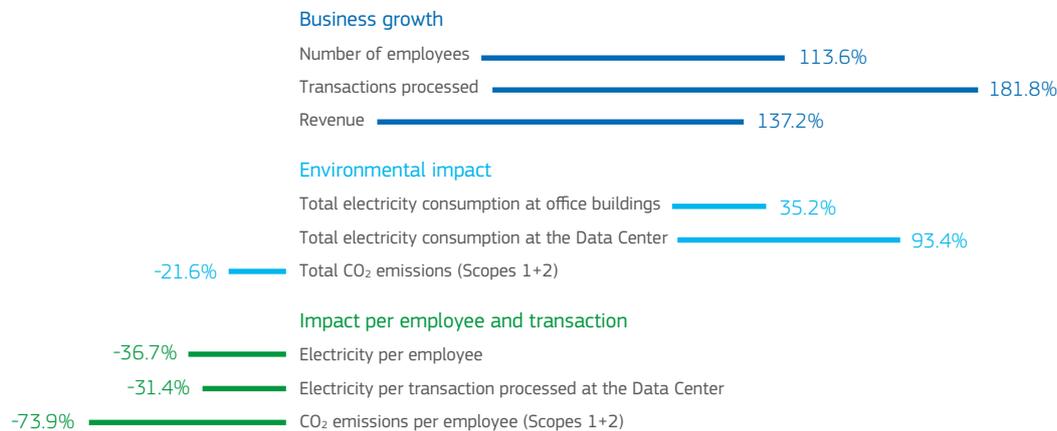
Overall, the main conclusions from the monitoring of the environmental performance of Amadeus operations in 2019 are:

- \_ A remarkable decrease in CO<sub>2</sub> emissions, thanks to the use of Guarantees of Origin of renewable energy at the Data Center. This resulted in zero emissions at the Data Center.<sup>4</sup>
- \_ A reduction of waste generated and water and paper used at global level, despite an increase of more than 10% in average workforce throughout the year.
- \_ An overall improvement in efficiency ratios of impact per employee. Particularly remarkable are the electricity consumption and the CO<sub>2</sub> emissions per FTE.
- \_ Following our methodology, overall company performance improved by 8.02% in 2019, thanks principally to the use of Guarantees of Origin and to the more frugal use of resources in our offices.

### Environmental performance at office buildings

A combination of environmental best practices implementation at company level and the development of pro-environmental behavioral changes is critical to enhancing sustainability performance.

### 2019 vs. 2009 business growth and environmental performance\*

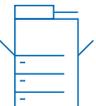
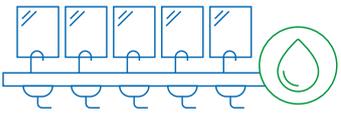


\* Total Amadeus sites worldwide estimated from the sites included in the Amadeus Environmental System, except transactions and revenue, which include direct data for the entire company.

<sup>4</sup> Data Center emissions were 29,661 t of CO<sub>2</sub> (Scopes 1 and 2) in 2019.

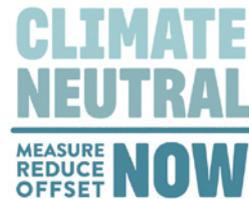
## Examples of best practices at office buildings

# AMADEUS

 <h3>Electricity consumption</h3>	<ul style="list-style-type: none"> <li>_ Switches connected to movement-detection control systems</li> <li>_ Replacing incandescent bulbs with LEDs; for example, in 2019 we have estimated a saving of 59,635 kWh for implementing LEDs at our premises in Bengaluru (India)</li> <li>_ Inclusion of energy performance clauses in our contracts with vendors like in Nice, which resulted in a 7% reduction in electricity consumption</li> </ul>	 <ul style="list-style-type: none"> <li>_ Automatically switching off lights at certain hours</li> <li>_ Use of Guarantees of Origin of renewable energy</li> <li>_ Thorough planning of areas covered by specific light switches</li> </ul>	<p>At our London site, the LED lighting system regulates the intensity of artificial light according to the natural light available, and the photovoltaic panels on the roof have produced close to 90,000 kWh in the first three-month period since implementation.</p>	
 <h3>CO<sub>2</sub> emissions reduction</h3>	<ul style="list-style-type: none"> <li>_ Use of Guarantees of Origin of renewable energy for the Data Center, saving close to 30,000 t of CO<sub>2</sub> per year</li> </ul>	<ul style="list-style-type: none"> <li>_ Shared transport facilities at our largest sites like Bengaluru, with an estimated reduction of more than 600 t of CO<sub>2</sub> annually. Our office in Nice provides a shuttle service between the main sites to reduce CO<sub>2</sub> footprint and traffic congestion</li> </ul>	<ul style="list-style-type: none"> <li>_ Purchasing carbon-neutral products and services from vendors</li> <li>_ Awareness campaigns to promote frugal consumption of energy</li> </ul> 	
 <h3>Paper consumption</h3>	<p>The new global badge-based printing system has been implemented at Amadeus worldwide. The new system permits significant savings. Based on statistics of more than 14,000 users, we found that more than 6% of print jobs sent to the printers end up being deleted, saving a significant amount of paper.</p>	<ul style="list-style-type: none"> <li>_ Global implementation of badge-based printing systems that reduce paper wasted and help to raise awareness about paper consumption, in addition to other benefits like improved confidentiality</li> <li>_ Setting all printer defaults to black-and-white, double-sided printing. Use of recycled paper when possible</li> </ul>	<ul style="list-style-type: none"> <li>_ Broad implementation of electronic signatures for contracts, reducing significantly the paper copies printed, courier usage and overall time taken to review and sign contracts</li> <li>_ Global marketing efforts to reduce paper use in advertising, using digital means instead</li> <li>_ Sending used paper for recycling</li> <li>_ Initiatives like activity-based working* in some of our sites like our Sydney office, reducing overall use of resources, including paper</li> </ul> 	
 <h3>Water use</h3>		<ul style="list-style-type: none"> <li>_ Implementing motion sensor taps, water flow regulators and aerators in bathrooms to optimize consumption</li> <li>_ Using drip irrigation systems and plants with low water consumption</li> </ul>	<p>In Singapore, our office building includes a condenser system to avoid water waste in the cooling system due to condensation. Amadeus buildings in some sites like Sydney harvest rainwater from the rooftop for various uses.</p>	<ul style="list-style-type: none"> <li>_ Using water-efficient dishwashers in kitchens</li> <li>_ Implementing leak detection units to reduce water loss</li> </ul>
 <h3>Waste generation</h3>	<ul style="list-style-type: none"> <li>_ Replacing individual workstation bins with common area bins to reduce waste and improve classification of waste</li> <li>_ Implementing a proper infrastructure to promote classification of waste</li> </ul>	<ul style="list-style-type: none"> <li>_ Elimination of the use of plastic as much as possible. Vending machines are replacing plastic cups with individual ceramic mugs</li> <li>_ Working with vendors that collect waste to improve the measurement and management of waste</li> </ul>	<p>In addition, the Amadeus global campaign “Green is the New Blue” launched by Amadeus’ People &amp; Culture unit, promoted behavioral change in the use of resources, engaging Amadeus leaders by recording short videos in which they explained their initiatives to reduce impact. The internal campaign resulted in increased interest and engagement by a large number of employees. Particularly remarkable were the efforts to reduce the use of plastic.</p>	

\* Activity-based working (ABW) is based on an office set-up that allows employees to choose from a variety of office settings according to the nature of what they are doing, combined with a workplace experience that empowers them to use those spaces throughout the day. In ABW, the individual ownership of a workstation is replaced by a more flexible set-up.

## Amadeus' Data Center becomes carbon neutral



The energy consumption from our data center is the single most important element of Amadeus' environmental impact, representing more than 50% of our total energy consumption.

Due to the significant company growth and the increasing volume of transactions processed in the last

years, energy efficiency measures needed to be complemented with other initiatives to achieve our objectives.

In 2016 we set a company-wide carbon-neutral growth policy, with 2015 as the baseline year. Since then, we have implemented measures to reduce emissions and worked with the UNFCCC (United Nations Framework Convention on Climate Change) to offset the emissions that we couldn't avoid, to reach our target. We invested in Clean Development Mechanism projects in India and offset more than 32,000 tons of CO<sub>2</sub>, with Certified Emissions Reductions from these projects.

In 2019 we took a significant step forward by moving the Data Center to 100% renewable energy. This was achieved through the purchase of Guarantees of Origin of renewable energy. With the use of Guarantees of Origin, we have reduced our CO<sub>2</sub> emissions company-wide (Scope 2) by 61%.<sup>5</sup>

### Environmental performance at the Amadeus Data Center

Energy efficiency is a priority at the Data Center. The measures taken to improve performance were selected from a combination of internal analysis by our experts and reviews and recommendations from external consultants. In this respect, the Amadeus Data Center

<sup>5</sup> Excluding carbon offsetting carried out in 2018. Including carbon offsetting the reduction would be 42.7%.

has maintained since 2010 the Energy-Efficient certification from TÜV SÜD for its power supply, cooling and climate control processes and IT equipment, as well as its procurement, installation and de-installation procedures, following a thorough analysis of our infrastructure. The certification has been subsequently renewed in 2012, 2015 and 2018. The current certification is valid until 2021. Amadeus has also extended the Data Center certification to EN 50600, the new EU standard for data centers that is even broader in scope and more demanding.

In 2019 the Amadeus Data Center reduced CO<sub>2</sub> emissions to zero. This initiative represents a significant step to achieve zero company emissions, in alignment with the objectives of the Paris climate change agreement.

Examples of measures taken to improve our energy efficiency and reduce CO<sub>2</sub> emissions include the implementation of more efficient cooling machines that reduce the energy required to cool servers and also optimize the use of water. In addition, with the heat produced by this cooling machine and a heat exchanger, we are able to heat the Systems and Network Control Center. Moreover, we replaced nine old transformers with energy-optimized transformers. The estimated savings generated by these operational efficiency improvements are 306,000 kWh (34,000 kWh per transformer). In 2019 we also replaced the exterior light bulbs by LED lights. This action reduced the power consumption by an estimated 42,760 kWh per year.

The Data Center's Power Usage Effectiveness (PUE)<sup>6</sup> in 2019 was 1.33.<sup>7</sup>

### Setting longer-term environmental objectives

Since 2016 we have been implementing a carbon-neutral growth policy. In 2019 we improved further and delivered net emissions reductions of 28,250 tons of Scope 2 emissions thanks to energy efficiency measures and the use of Guarantees of Origin. Amadeus is a signatory to the UN Climate Neutral Now Pledge, and these initiatives help us to honor this commitment and move in the right direction toward zero emissions.

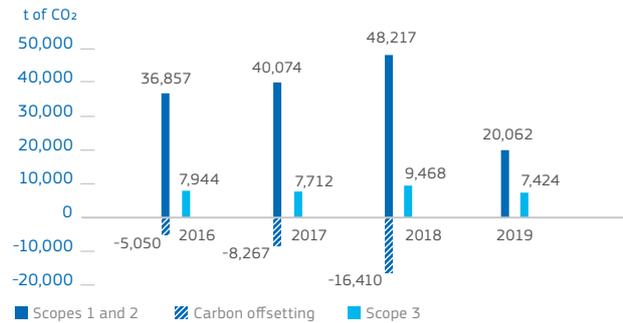
<sup>6</sup> The Power Usage Effectiveness is a common metric used to measure the energy efficiency of data centers. The closer to 1 the PUE, the more efficient the data center is.

<sup>7</sup> Our long term target for 2025 is to achieve a PUE of 1.32, improving from the 2018 PUE of 1.34. The objective for 2019 was therefore a PUE of 1,337.

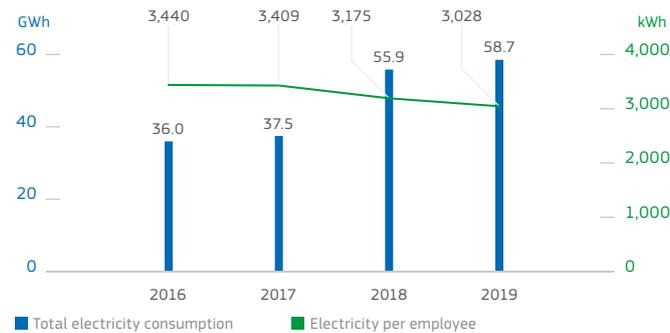


Watch our video *Building a sustainable workplace*

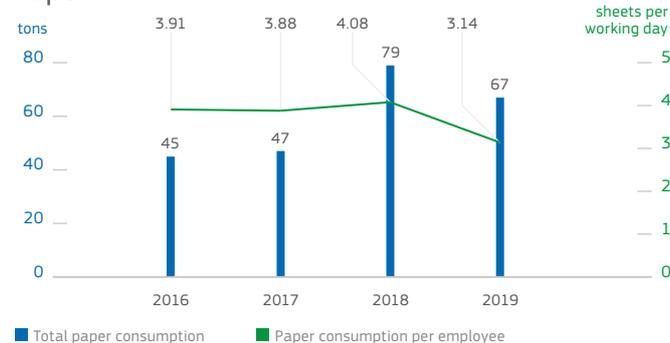
### CO<sub>2</sub> emissions\*



### Electricity\*



### Paper\*



## 7.2 Environmental benefits of Amadeus solutions

Amadeus invested €988 million in 2019 in R&D projects. ↪ We develop technology solutions that help to improve the operational efficiency of customers, and this increased operational efficiency is linked in many cases to improved environmental efficiency. Environmental benefits expand to a wide range of stakeholders in the industry, including airlines, airports, travelers and cities.

We describe below the environmental benefits of Amadeus solutions in the five stages of the travel cycle.

### \_Inspiration

Information on estimated CO<sub>2</sub> emissions per passenger flight is included in some of Amadeus' distribution platforms. The source of information for the estimations of emissions is the ICAO<sup>8</sup> carbon calculator. Customers also have the ability to compare the environmental effects of different itineraries.

### \_Booking

During the booking phase, some of Amadeus' solutions offer the possibility of obtaining CO<sub>2</sub> emissions estimations for different itineraries. Travelers can then incorporate CO<sub>2</sub> emissions as an additional element into their booking decision-making process, together with traditional parameters like schedules, availability and fares.

### \_Pre-trip

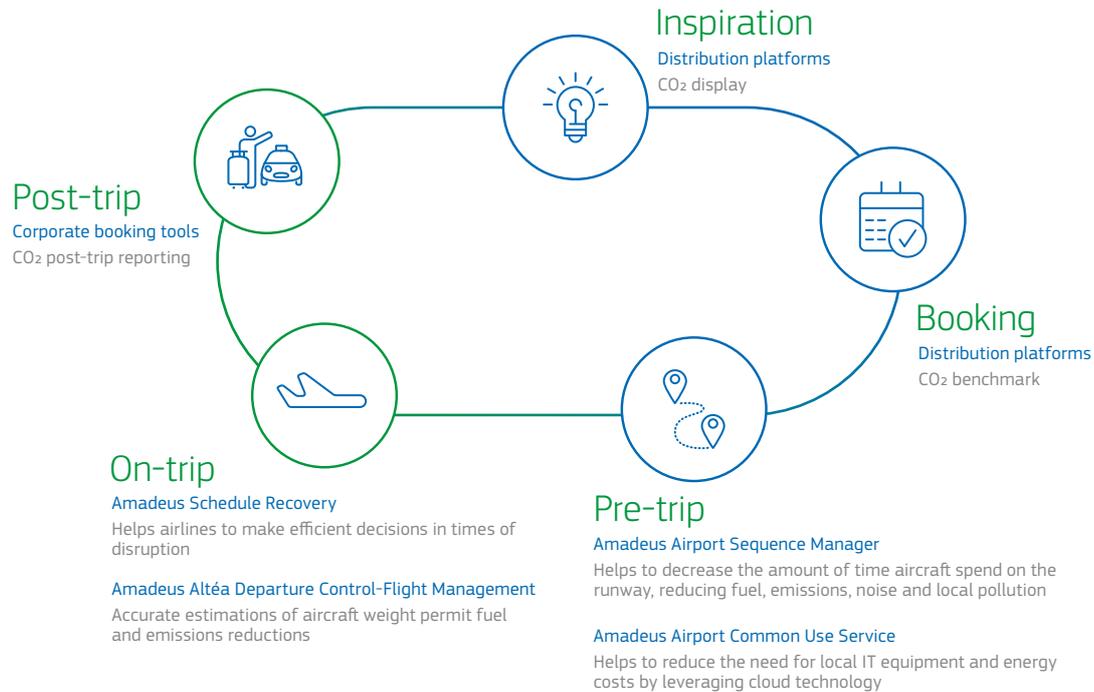
Amadeus Airport Sequence Manager permits improved planning of aircraft movements at airports' runways and a sophisticated aircraft slot assignment, helping airports and airlines to reduce their operational environmental impact by minimizing the amount of time that aircraft spend taxiing on the runway. If such solutions were to

↪ See "Technology and innovation," p. 52.

<sup>8</sup> The United Nations agency in charge of civil aviation. Amadeus has an agreement in place with ICAO to use its carbon calculator on Amadeus platforms for the purpose of providing emissions estimations to travelers and corporations.

\* Scope: The figures for 2019 and 2018 include the total consumption for Amadeus worldwide. These estimations have been calculated based on the average consumption factor of the 15 sites where we measure our environmental impact directly. In 2017 and 2016 we did not include this estimation in our environmental reporting and the scope for those years only included the top 13 and top 11 Amadeus sites, respectively.

## Environmental benefits of Amadeus solutions at the five stages of the travel cycle



be implemented at the major airports of the European Civil Aviation Conference, the European Union estimates savings of over €120 million in fuel costs and a reduction of more than 250,000 tons of CO<sub>2</sub> emissions.<sup>9</sup>

Amadeus Airport Common Use Service helps to reduce energy consumption at airport buildings by reducing the amount of IT infrastructure required at airports.

Using advanced algorithms that estimate demand and analyze risks, Amadeus Sky Suite by Optym helps airlines to make fundamental decisions related to airline networks, flight frequencies and

<sup>9</sup> Eurocontrol (European Organization for the Safety of Air Navigation) (2008). *Airport CDM Cost Benefit Analysis*.

equipment, reducing the use of resources (fuel, aircraft, airport infrastructure, etc.) per passenger flown. Amadeus completed its acquisition of Optym in February 2020.

### On-trip

Amadeus Altéa Departure Control-Flight Management helps airlines accurately estimate the fuel needed for a specific flight, using sophisticated algorithms and historic data. The accurate estimation of the weight of the aircraft before the fuel is loaded (zero-fuel weight) permits significant savings in fuel burn, emissions and economic costs. In this respect, a study carried out by Amadeus in conjunction with its customer Finnair analyzed more than 40,000 flights and concluded that a mid-sized carrier can save a minimum of 100 tons of fuel and more than 315 tons of CO<sub>2</sub> emissions per year. Assuming that a similar level of savings is achieved by all our customers using the same flight management solution, the amount of CO<sub>2</sub> emissions thus reduced would exceed the total emissions associated with Amadeus' operations (Scopes 1 and 2).

Amadeus Schedule Recovery helps airlines make rapid decisions in moments of operational disruption. It enables them to improve operational efficiency and customer service while minimizing negative environmental impact by finding optimum solutions for each disruption.

### Post-trip

There is an increased demand from corporations for solutions that help measure travel-related emissions. Some of Amadeus' solutions offer the possibility of obtaining post-trip CO<sub>2</sub> emissions reports aggregated at different levels and times. We are working on the expansion in scope and features of such solutions.

## 7.3 Participation in industry environmental initiatives

Long-term industry sustainability requires that all industry stakeholders work together toward this common objective. For this reason, the third pillar of our environmental sustainability strategy is to identify and engage in collaborative environmental sustainability projects.

In order to raise awareness of aviation carbon emissions, and to support the use of a common methodology to estimate carbon emissions per passenger and encourage mitigation actions, Amadeus and ICAO have a long-term agreement in place whereby

Amadeus uses ICAO's carbon calculator on our distribution platforms, providing travelers with information about greenhouse gas emissions released during their trips. ICAO's carbon calculator brings the benefits of global reach, as well as neutrality and legitimacy to represent the aviation industry.

Our agreement with ICAO has also encouraged the development of local initiatives to support the use of ICAO's carbon calculator and the offsetting of travel-related emissions. This includes the development of mid- and back-office solutions that include post-trip carbon reporting, as well as facilitating access to carbon offsetting schemes.

During 2019 we continued our cooperation with institutions like the World Travel and Tourism Council and academic institutions like Griffith University (Australia). In this respect, Amadeus was involved in the production of the Global Sustainable Tourism Dashboard, developed in cooperation with the University of Surrey (United Kingdom) and the Griffith Institute for Tourism, to which Amadeus contributed by sharing aggregated travel data. The Global Sustainable Tourism Dashboard provides a broad insight into how the travel sector is contributing to key sustainability goals.

In 2019 we also contributed to the production of the UN World Tourism Organization's (WTO) landmark report *Transport-related CO<sub>2</sub> Emissions of the Tourism Sector*<sup>10</sup> with aggregated travel information data and trends.

The report *Airline initiatives to reduce climate impact* written by professor Susanne Becken to which Amadeus also contributed with aggregated travel information and insights, was launched at the Madrid UN Conference of the Parties on climate change (COP25).

## 7.4 Climate change-related risks and opportunities

The travel and tourism industry needs to contribute to achieving the 1.5–2 degrees maximum increase target set by the Paris climate agreement. The actions required for the achievement of the target require fundamental changes in the travel industry.

Amadeus is involved in the travel experience of millions passengers daily. We are an important player in the travel and tourism industry

<sup>10</sup> This report is available at: <https://www.e-unwto.org/doi/book/10.18111/9789284416660>.

### ICAO and Amadeus partnership

- \_Legitimacy
- \_Neutrality
- \_Global reach

Carbon calculator



# Improved environmental awareness in the industry



Travel industry reach

- \_Contact with 2+ million travelers per day
- \_Operating in 190+ countries

and we acknowledge our responsibility to contribute to the fight against climate change.

The climate change-related risks faced by Amadeus can be classified into the following categories:

### Physical risks

#### Physical risks affecting the communities in which we operate

Amadeus operates in over 190 countries. The risk of climate change impact and/or extreme weather events affecting any of these communities is therefore very high. As part of our social responsibility efforts, we have built a global team of more than



Amadeus participated at COP25 in the panel "Climate Action in Travel and Tourism," co-organized by the WTTC and the UNFCCC.

80 social responsibility representatives who, among other things, coordinate emergency responses in the event of natural disasters occurring in the markets we serve.

## Physical risks affecting our travel providers and/or customers

Risk of global exposure to physical risks like extreme weather events is limited, and the impacts tend to be local. Our 24-hour follow-the-sun customer service network is set up to provide extra support in case of need.

## Physical risks affecting Amadeus' operations

Amadeus' operations rely on two basic kinds of infrastructure: (1) commercial, technology and support organizations, with offices across all continents; and (2) the Amadeus Data Center. The probability of a severe weather event affecting any of our numerous offices worldwide is relatively high, but fortunately the adverse impact of such events is mitigated by communications technology that allows for uninterrupted customer service in most cases and redundancy. Moreover, our Risk & Compliance Office directly manages all infrastructure-related risks for the Data Center, where strict prevention and mitigation measures are implemented.

## Regulatory risks

Climate-related discussions and initiatives at local, national and international level continue to increase, and we expect they will continue to gain momentum over the mid-term. Accordingly, many countries have introduced climate change-related regulations. A principal focus of these regulations is the reporting and reduction of greenhouse gas emissions, particularly of CO<sub>2</sub>, as well as the promotion of renewable sources of energy. We have identified two kinds of environmental regulations that may present an opportunity and a risk to Amadeus.

## Carbon-reporting regulations

Some countries like France have already passed legislation mandating that corporations should build and report carbon footprint inventories. In the specific sector of transport,<sup>11</sup> travel providers are required to inform travelers about emissions released as a consequence of their trips. Amadeus can help corporations gather the data required for this reporting.

<sup>11</sup> Decree No. 2011-1336 (France), October 24, 2011.

However, there is also the risk that these regulations will become too complex or heterogeneous, making it costly for Amadeus to help corporations report emissions. The Amadeus Industry Affairs team is working with several stakeholders, including the European Union, to advocate for a homogeneous approach across countries in relation to reporting and reducing emissions.

## Regulations that impose charges on emissions and/or emissions reductions

An example of such a regulation is the European Union's Emissions Trading Scheme (ETS). The ETS was first implemented in 2005, and extended to the aviation sector in 2012.

At the moment, we do not expect these regulations to have a significant impact on Amadeus in the short term, given the relatively low cost of compliance with the ETS scheme (which is unlikely to reduce travel demand) and the geographical spread of Amadeus' operations. Nonetheless, we are closely monitoring developments on this front, since we are seeing increased interest in this topic from social media movements, which may result in more stringent legislation.

In addition, Amadeus' IT solutions that help airlines to reduce fuel consumption and emissions will improve our value proposition.

## Reputational risks

Travelers and the general public are increasingly aware of climate change risks and expect environmentally responsible operations from companies. Even though Amadeus' exposure to the general public is limited, we need to prioritize compliance with the industry's environmental standards, making sure our performance in this field excels.

The Amadeus EMS provides a solid record of our performance evolution and permits the easy identification of areas for improvement. Additionally, Amadeus has been included in external sustainability indices like the Dow Jones Sustainability Index (DJSI)<sup>12</sup> and the CDP,<sup>13</sup> which provide recognition of commitment to

<sup>12</sup> The Dow Jones Sustainability Indices (DJSI), launched in 1999, are a family of indices evaluating the sustainability performance of the largest 2,500 companies listed on the Dow Jones Global Total Stock Market Index.

<sup>13</sup> Formerly the Carbon Disclosure Project – an international, not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage and share environmental information. CDP is recognized as the main international standard for climate change reporting and management for corporations.

sustainability. The opportunities for Amadeus relating to climate change are divided into the following two categories.

## Opportunities for new products and services

As mentioned above, corporations are becoming increasingly involved in the reporting of greenhouse gas emissions associated with their operations, including emissions linked to the business travel of employees. Taking advantage of the data and information processed by Amadeus, we can offer solutions that:

- \_ Display emissions during the booking process, comparing emissions released on different alternative itineraries.
- \_ Provide post-trip reports to corporations so they can measure, report and follow up on their environmental impact relating to business travel.
- \_ Facilitate mitigation measures, such as carbon offsetting programs.

## Opportunities for enhanced value proposition

Amadeus designs IT solutions to improve operational efficiencies for our customers that translate into environmental efficiencies, particularly in relation to reduced fuel consumption and emissions for travel providers.

## Technology risks

Climate-change related technology risks for Amadeus are linked to the increasing speed at which new solutions are being developed and deployed to market. We need to increasingly factor in sustainability in the design of our IT solutions to respond to the increased concern from the market.

## Market risks

Travel industry stakeholders are under increasing pressure to include environmental sustainability, and climate change in particular, in their value proposition and portfolio of products and solutions. The number of travelers demanding sustainable travel options is significantly increasing.

We need to help our customers, and especially airlines to make visible efforts to reduce their emissions and position themselves in the area of emissions reductions.

At internal level, our workforce is demonstrating increasing concern in making sure that Amadeus lives up to expectations in terms of environmental credentials, and we need to keep up with these expectations to attract the best talent.

## Amadeus in sustainability indices

Sustainability indices provide a valuable benchmark to assess how Amadeus compares to other companies and industries on sustainability performance.↪

For the eighth consecutive year, Amadeus has been included in the Dow Jones Sustainability Indices (DJSI) in both the World and Europe categories. Importantly, the DJSI evaluate sustainability performance very comprehensively, including economic, environmental and social dimensions. One of the most remarkable scores achieved in the DJSI results announced in September 2019 was environmental reporting, where Amadeus achieved the maximum score of 100 points. We believe transparent and clear non-financial information reporting is a fundamental step for long-term sustainability and we have reinforced our commitment in this direction.

Amadeus also participated in CDP Climate Change in 2019 and obtained a score of B.

Amadeus has also been included for the sixth consecutive year in the FTSE4Good Sustainability Index. The FTSE4Good Index Series includes companies that reflect strong Environmental, Social and Governance (ESG) risk management practices.

And in 2019, for the first time, we were evaluated by EcoVadis and awarded a silver medal, which means our score was within the top 25 percentile.



↪ See "Amadeus profile," p. 13.

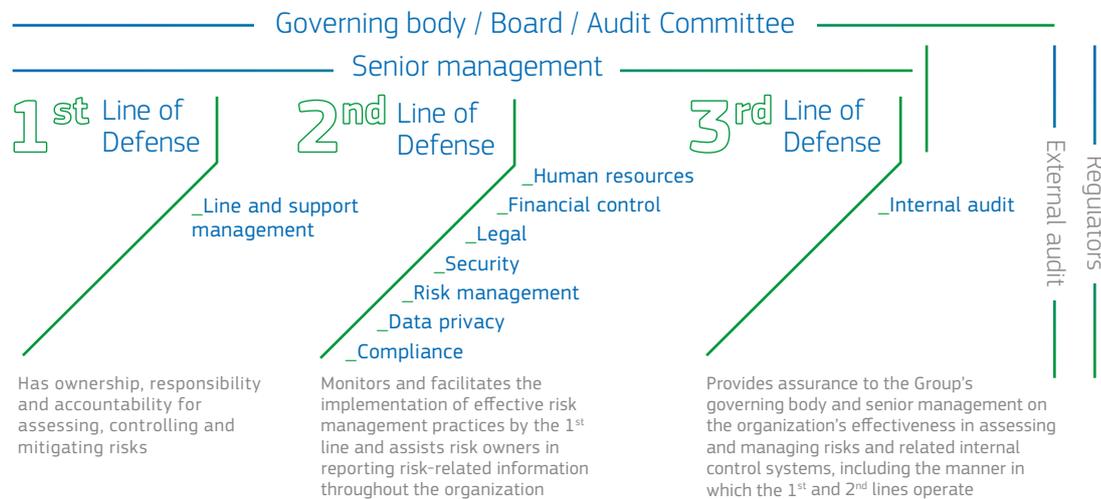
# Corporate risk management

## CHAPTER 8

Amadeus adopted the Three Lines of Defense Model a few years ago with the endorsement of the Board of Directors and the Executive Committee. This model integrates, coordinates and aligns all Amadeus support and assurance functions for the effective management of risk across the Group.

Since its adoption, the model has fostered effective risk management across Amadeus, especially through the adoption of a Combined Assurance concept, through which we have expanded the coordinated management of control activities and the sharing of results.

### Three Lines of Defense and Combined Assurance



## First Line of Defense: executive management, management and staff



Amadeus' commitment to integrity and transparency begins with its own staff. Amadeus employees adhere to the ethical standards set forth in the Amadeus Code of Ethics and Business Conduct and related policies. We don't see this code and our core policies purely as a "rule book," but as a mutual agreement across the company to promote positive behaviors that will add value to our business and ensure the highest standards of integrity at all times. The areas covered in the code are:

- \_ Commitment to the environment
- \_ Avoiding conflicts of interest
- \_ Protecting personal data and confidentiality
- \_ Handling relations with third parties and the media in a sensitive manner
- \_ Handling company property, equipment and installations with care

In 2017 we drew up our Human Rights Policy, affirming our commitment to international human rights. We expect all our suppliers and business partners to uphold internationally recognized standards regarding working conditions and the dignified treatment of employees.

Human rights form part of Amadeus' risk analysis framework. We evaluate the risks of infringing on the following rights:

- \_ Non-discrimination
- \_ Collective bargaining

### Amadeus policies



#### Compliance policies

- \_ Amadeus Code of Ethics and Business Conduct
- \_ Anti-Bribery Policy
- \_ Anti-Fraud Policy
- \_ Business Continuity Policy
- \_ Entertainment/Gift Policy
- \_ Information Classification Policy
- \_ Speak Up Policy

#### Legal policies

- \_ Corporate Privacy Policy
- \_ ACO Privacy Manual
- \_ Antitrust and Competition Law – Compliance Manual
- \_ Internal Rules of Conduct to the Securities Market
- \_ Security and Privacy Handbook

#### Industry affairs policies

- \_ Amadeus Environmental Policy
- \_ Charitable Contributions Policy
- \_ Political Contributions and Lobbying Policy
- \_ Social Responsibility Policy and Practice

#### Finance policies

- \_ Corporate Purchasing Policy

#### Human resources policies

- \_ Amadeus Human Rights Policy
- \_ Health and Safety Policy

#### Information security policies

- \_ Acceptable Use Policies

- \_ Freedom of association
- \_ Fair wages
- \_ No child labor or forced labor
- \_ Adequately healthy and safe working conditions

Although such risks fall very low on our risk map, we have a series of mitigating and monitoring actions to manage them, both internally and with our suppliers and business partners.

Our mergers and acquisitions procedures also include due diligence on human rights-related risks. Our Integration team ensures that Amadeus' policies are effectively implemented into newly integrated companies. And our Speak Up Policy encourages employees to report any breach of the Code of Ethics and Business Conduct, including potential human rights violations.

During 2019 no significant breaches of the Code of Ethics and Business Conduct were reported.

The core policies listed below are supported by systems which undergo regular internal and external quality reviews to ensure regulatory compliance and application of best practices. We have instruments in place for employees to seek advice on whether certain activities are considered ethical or lawful according to our corporate policies. One key instrument, the Ethics Committee, provides guidance as well as receives reports of any unethical or unlawful behavior.

## Second Line of Defense: internal governance functions



Control activities are embedded in all areas of the company. Major control activities are carried out from departments such as Risk & Compliance, Security, Privacy, Legal, Finance and People & Culture.

### Risk management and controls

Risk & Compliance is responsible for centralizing the continuous monitoring of major risk and compliance issues within Amadeus. It also leads a transversal Combined Assurance program also involving the Group Privacy Unit and the Corporate Information

Security Office. The Combined Assurance program coordinates its activities with other functions focused on business control. This includes our Regional Business Oversight commissions (made up of senior personnel from Legal, HR, Finance and our business units) and our Internal Financial Controls unit (oversees compliance with the Internal Control over Financial Reporting (ICFR) standard).

Risk & Compliance develops Amadeus' Corporate Risk Map and establishes control and monitoring procedures for each of the identified risks, in conjunction with the owner responsible for each risk. The risks ascertained from this analysis, as well as monitoring measures, are reported on a regular basis to the Risk Steering Committee and the Audit Committee, as well as the Executive Committee and the Board of Directors.

We continually monitor the most significant risks that could affect the activities and objectives of Amadeus and its companies. Amadeus' general policy regarding risk management and monitoring focuses on:

- \_ Achieving the company's long-term objectives in line with its established strategic plan
- \_ Giving the maximum level of guarantees to shareholders and defending their interests
- \_ Protecting the company's earnings
- \_ Protecting the company's image and reputation
- \_ Giving the maximum level of guarantees to customers and defending their interests
- \_ Guaranteeing corporate stability and financial strength over time

The ultimate aim of the Corporate Risk Map is to provide visibility on significant risks and facilitate effective risk management. Risk analysis is a fundamental element of the company's decision-making processes, both within the governing bodies and in the management of the business as a whole.

The Corporate Risk Map also takes into account the global risks identified each year by the World Economic Forum<sup>1</sup> – such as economic, environmental, geopolitical, societal and technological risks.

The Corporate Risk Map takes into account issues or risks that could impede Amadeus from achieving its strategic objectives as well as other issues that have not yet manifested sufficiently to be managed – commonly referred to as “known unknowns” or emerging risks.

<sup>1</sup> World Economic Forum (2019). *Global Risks Report 2019, 14th Edition.*

These are newly developing or changing risks that are difficult to identify and quantify and could have a major impact on society and the industry. Examples include:

- \_ Increased share of elderly travelers. We need to understand the particular requirements of this segment of travelers. Our development teams are designing products and services to adapt to this growing market.
- \_ Extremely fast digital development. New economic models of travel distribution emerge as a consequence of rapid technological changes. We are mitigating this risk through a combination of measures that include R&D investment, strengthened customer relationship and innovation initiatives, among others.
- \_ Climate change. Risks for our business include both the physical effects of climate change, as well as behavioral change from travelers. We are considering how to include sustainability concerns in the travel purchase process, in addition to our initiatives to reduce emissions in our operations and for our customers.

The latest version of the Corporate Risk Map defines the most critical risks relating to Amadeus' operations and objectives, including:

- \_ Technological risks derived from failures in the infrastructure or caused by cyber-attacks
- \_ Operational risks that could affect the efficiency of business processes and services
- \_ Security and compliance risks
- \_ Commercial risks that could affect customer satisfaction
- \_ Reputational risks
- \_ The macro-economic and geopolitical environment
- \_ Trends in the travel and tourism industry

Some of these risks have evolved from the previous Corporate Risk Map, while others have been newly identified.

These highlighted risks are assigned to risk owners at the highest level of the company, who are given the duty of proposing the risk response. Progress with mitigation and evolution of key risks is submitted to the Risk Steering Committee for review and consideration, together with any proposed action plans for necessary measures or further actions.

Due to its transversal and dynamic character, this process identifies new risks that affect Amadeus arising from changes in the environment or the revision of objectives and strategies.

In the current business environment, with its increasing stakeholder demand for transparency, ethics and social responsibility,

reputational risk management is becoming increasingly relevant. The Amadeus Reputational Risk Map is fully integrated into the overall Corporate Risk Map of the company. So assessing the reputational impact of a particular risk is embedded into our methodology. Similarly, cybersecurity risks are managed through a security risk framework driven by our Corporate Information Security Office, which is also integrated into the Corporate Risk Map.

In addition to managing risks, Amadeus is very focused on ensuring compliance with initiatives such as the General Data Protection Regulation (GDPR) of the European Union. Our activities also extend to existing control standards such as PCI-DSS (credit cards), SOC 1 (computer controls) and ISO 27001 (security).

Amadeus, like any other organization, is exposed to risks that could significantly disrupt key internal services to Amadeus as well as external IT services that we provide to customers. To ensure minimal disruption in such catastrophic events, Amadeus has implemented a Business Resilience Program designed to protect our people, assets and infrastructure, and minimize the potential impact to acceptable limits.

Finally, through the training and awareness plan coordinated by Risk & Compliance, we try to ensure that all employees understand and apply best practices on ethical behavior as well as security and privacy.

The Risk & Compliance Office works closely with the following committees:

- \_ The Ethics Committee, which provides guidance on ethical behavior and compliance issues. This committee also addresses any concerns that employees may have and assists in the implementation of the Code of Ethics and Business Conduct. Promoting integrity, transparency and ethical conduct in all our operations is very important to us, and we have a zero-tolerance approach to prohibited practices, both in our internal affairs and external operations.
- \_ The Risk Steering Committee, which is a decision-making body empowered by the Executive Committee to provide oversight and guidance on risk management activities and issues across Amadeus. This includes risk assessment and prioritization, risk mitigation strategies and crisis response.

Both the Ethics Committee and the Risk Steering Committee meet several times a year.

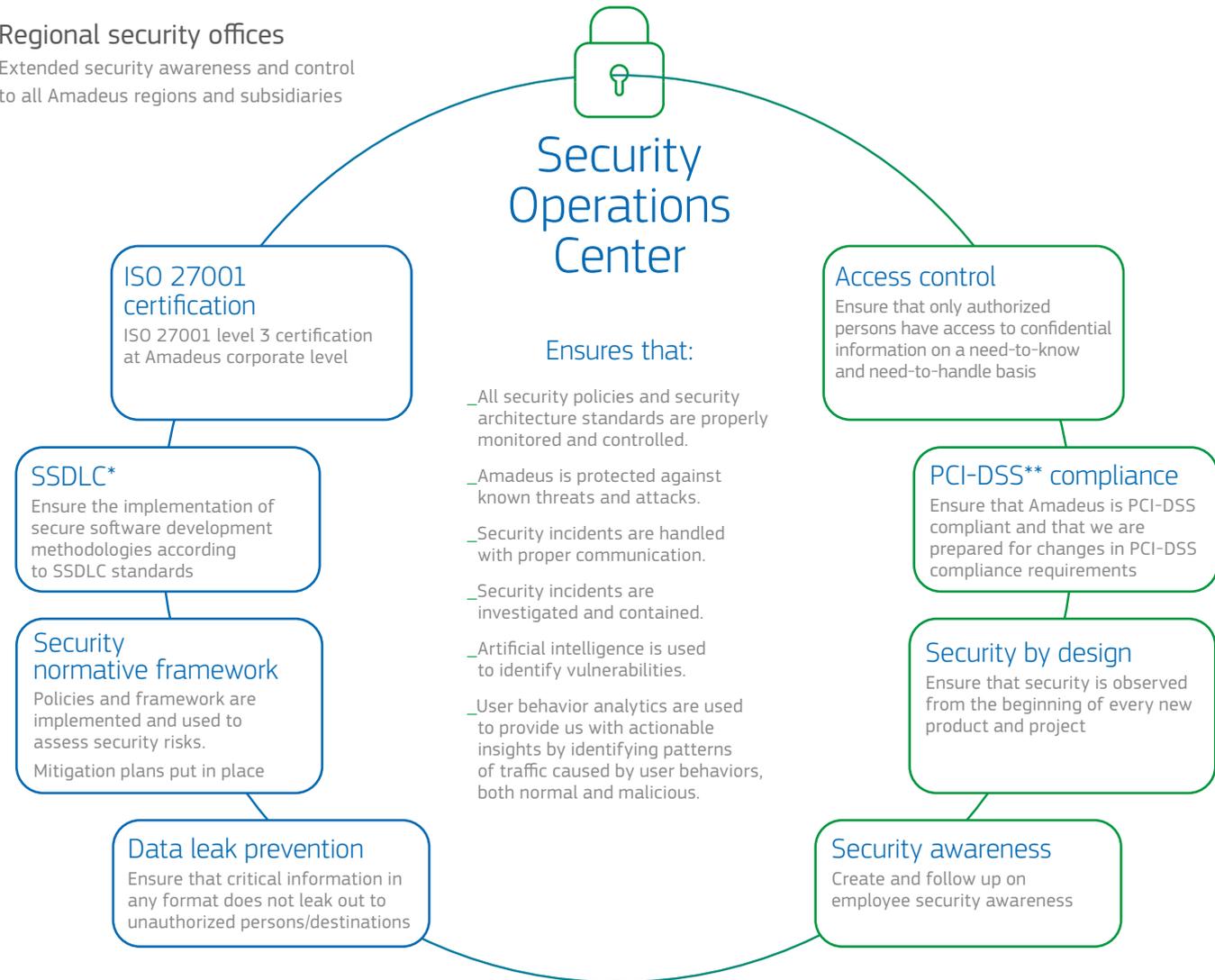
## Amadeus Corporate Information Security Office

Amadeus continuously reviews and improves its processes to keep ahead of upcoming threats, ensuring that technical controls are

## Amadeus Corporate Information Security Office

### Regional security offices

Extended security awareness and control to all Amadeus regions and subsidiaries



\* SSDLC: Secure Software Development Life Cycle.

\*\* PCI-DSS: Payment Card Industry Data Security Standard.

considered and addressed, and that our people are aware of our policies, controls and processes to avoid or minimize the impact of these threats. We follow the ISO 27001 standard, including:

- \_ Corporate security objectives and controls set by our Corporate Information Security Office.
- \_ Our Security Risk Map, which gives priorities for the implementation of mitigations.
- \_ A maturity assessment carried out by a third party to identify security gaps, which are also monitored and followed in our Corporate Security Program.

All these activities are monitored and controlled by our Corporate Security Program (SHIELD).

From a global operations and technology perspective, Amadeus has established an independent Security Operations Center to monitor at all times the security status of the services we provide to customers. This service also helps us understand emerging technical threats and invest in the most appropriate technology to mitigate new risks.

Since January 2017 Amadeus has been a member of the Aviation Information Sharing and Analysis Center (A-ISAC), showing our continuous commitment to increasing our customers' trust and the sharing of best practices.

## Third Line of Defense: Group Internal Audit



Amadeus' Group Internal Audit:

- \_ Supports the Audit Committee in monitoring the effectiveness of the company's internal control and risk management systems.
- \_ Provides independent and objective assurance and consulting services designed to add value and improve Amadeus' operations. It helps accomplish our goals by using a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management and control processes. This includes the potential for fraud and how the organization manages fraud risk.
- \_ Covers all companies, businesses and processes majority-owned or controlled by Amadeus. Every year, Group Internal Audit performs a thorough background and risk assessment

exercise to verify and update our audit priorities. This considers, among other dimensions:

- The Group's strategic objectives and projects
- The Corporate Risk Map
- Internal/external challenges and enablers identified through interviews with senior management and major control functions
- Magnitude and geographical footprint of the Group's entities and activities
- Audit cycles

The output leads to the formalization and approval by the Audit Committee of a yearly internal audit plan.

The legal entities included in Group Internal Audit reviews during 2019<sup>2</sup> represented more than 60% of the total Amadeus workforce. The main risks identified during internal auditing are reported to senior management and the Audit Committee, and their status is periodically updated until resolution or acceptance by the governing bodies.

As an optimum complement to its independent reviews, Group Internal Audit holds periodic coordination meetings with the main control, business and technology units.

The reporting lines and authority of Group Internal Audit are set by the Audit Committee to ensure that it has sufficient authority to carry out its duties. To ensure Internal Audit's objectivity, its staff have no direct operational responsibility or authority over any of the activities audited. Accordingly, internal auditors do not implement internal controls, develop procedures, install systems, prepare records or engage in any other activity that may impair their judgment.

Group Internal Audit is governed according to the mandatory elements of the Institute of Internal Auditors' (IIA) International Professional Practices Framework (IPPF). This includes its Core Principles, its Definition of Internal Auditing, its International Standards and its Code of Ethics. Group Internal Audit also runs a Quality Assurance & Improvement Program that combines ongoing monitoring with periodic internal and external assessments. The program includes the evaluation of Group Internal Audit's conformance with the IPPF. It also assesses the efficiency and effectiveness of Group Internal Audit and identifies opportunities for continuous improvement.

<sup>2</sup> Including internal audit reviews, and the assessment of the design and effectiveness of the Internal Control over Financial Reporting (ICFR) and the Corporate Crime Prevention (CCP) models.

# Corporate governance

## CHAPTER 9

Amadeus upholds the highest levels of corporate governance, which helps us maintain our market leadership and our reputation as a trusted partner for customers, suppliers and other stakeholders. Our corporate governance policies and procedures are designed to help us achieve our objectives and protect the interests of our shareholders.

Amadeus' main legal norms relating to corporate governance were drawn up when the company was listed on the Spanish stock market in April 2010. These norms were adapted to the new mercantile framework resulting from the amendments to the Spanish Capital Companies Act, as well as the European Union's Market Abuse Regulation. They comprise:

- \_ Company bylaws
- \_ Regulations of the Board of Directors
- \_ Regulations of the General Shareholders' Meeting
- \_ Internal rules of conduct relating to the securities market

The following documents, among others, have been approved by Amadeus' various governing bodies and complement and integrate the company's general corporate governance policy:

- \_ Tax strategy
- \_ Audit Committee Regulations

- \_ Corporate Crime-Prevention Policy
- \_ Policy Regarding Communication and Contact with Shareholders, Institutional Investors and Proxy Advisers
- \_ Directors' Selection Policy
- \_ Directors' Remuneration Policy (2019–2021)

### Amadeus' corporate governance structure





## General Shareholders' Meeting

The General Shareholders' Meeting is the highest body representing Amadeus's share capital. It exercises its powers exclusively in the spheres of corporate law and the company's bylaws. According to these, shareholders must meet at least once a year, within the first six months, to debate and adopt agreements concerning their most important economic and legal duties. These include, among others:

- \_ Appointment of Board members
- \_ Review and approval of the annual accounts
- \_ Appropriation of results
- \_ Appointment of external auditors
- \_ Authorization for the acquisition of treasury stock
- \_ Supervision of the Board's activities

Both Spanish law and the company's bylaws give the General Shareholders' Meeting the exclusive power of adopting other important agreements, such as bylaw modifications, bond issues and mergers.

The Spanish Capital Companies Act gives further significant powers to the General Shareholders' Meeting, which is now the competent body responsible for discussing and agreeing to any purchase, sale or contribution of essential assets from or to another company.

The General Shareholders' Meeting may also decide on business transactions amounting to the liquidation of the company, as well as on the Remuneration Policy of the Board of Directors.

## Board of Directors



The Board of Directors is Amadeus' highest representative, administrative, managerial and controlling body. It sets out the company's general guidelines and economic objectives, and carries out the company's strategy (steering and implementation

of company policies), supervision activities (controlling management) and communication functions (liaising with shareholders).

The Spanish Capital Companies Act also gives further powers to the Board of Directors, some of which are non-delegable (for listed companies). In this regard, the Board of Directors is the responsible body for policies on, among others:

- \_ Corporate social responsibility
- \_ Risk management and control (including fiscal risks)
- \_ Corporate governance
- \_ Tax strategy

Members of the Board of Directors are appointed by resolution of the General Shareholders' Meeting for an initial period of three years. After this, they can be re-elected for additional periods of one year, with no limit.

Amadeus has had a Directors' Selection Policy since 2016. This selection process looks at a range of factors, including but not restricted to:

- \_ The business's current strategy
- \_ The Board's composition, especially its members' industry, functional and geographic experience
- \_ The Board's diversity, especially but not limited to gender diversity

Amadeus recognizes and embraces the benefits of having a diverse Board, and sees increasing diversity of knowledge, experience and gender at Board level as an essential element in continually improving the Board's effectiveness. A truly diverse Board will include and make good use of differences in its directors' skills, regional and industry experience, background, race, gender and other distinctions. These will be considered in determining the optimum composition of the Board and will be balanced appropriately. All Board appointments are made on merit in terms of skills, experience, independence and knowledge that can contribute to the Board's effectiveness.

The Directors' Selection Policy aims for at least 30% of the Board's seats to be held by women by the year 2020. Although the commitment remains, the Nominations and Remuneration Committee considers its achievement more likely throughout the year 2021, as part of an orderly process of succession in the Board.

## Composition of the Board of Directors

Name or corporate name of director	Position on the Board	Date of first appointment	Nature	Position on the committees	
				Audit Committee	Nominations and Remuneration Committee
Mr. José Antonio Tazón	Chairman	12/02/2008	Independent		
Mr. Guillermo de la Dehesa	Vice Chairman	04/29/2010	Independent	Member	Member
Mr. Luis Maroto	President & CEO	06/26/2014	Executive		
Mr. William Connelly	Director	06/20/2019	Independent		
Dame Clara Furse	Director	04/29/2010	Independent	Chairman	Member
Mrs. Pilar García	Director	12/15/2017	Independent	Member	
Mr. Stephan Gemkow	Director	06/21/2018	Independent		
Mr. Pierre-Henri Gourgeon	Director	12/29/2005	Other external	Member	
Mr. Nicolas Huss	Director	06/15/2017	Independent		
Mr. Peter Kuerpick	Director	06/21/2018	Independent		Member
Mr. Francesco Loredan	Director	02/21/2005	Other external		Member
Mr. Josep Piqué	Director	06/20/2019	Independent		
Mr. David Webster	Director	05/06/2010	Independent	Member	Chairman
Mr. Tomas López Fernebrand	Secretary (non-director)	01/18/2006			
Mr. Jacinto Esclapés	Vice Secretary (non-director)	01/18/2006			



**Mr. José Antonio Tazón García**  
Chairman

Mr. Tazón is an Engineering graduate from the Universidad Politécnica of Madrid. He was Amadeus' President and Chief Executive Officer between 1990 and 2008. He was part of the initial team of experts who in 1987 founded Amadeus and created its blueprint, functions and strategy. His 18-year tenure as Chief Executive Officer saw consistent growth, global expansion and the start of the company's successful diversification strategy.

He served on the Board of Directors of Expedia Inc. (online travel agency) from 2009 to 2016; was appointed Chairman of Ufinet Telecom SAU (telecommunications operator) from 2014 to mid-2018; and has served as an independent director of HBG Ltd. (tourism sector) since 2016. He is a member of the Spanish Permanent Commission of the Tourism Board of the Confederation of Employers & Industries of Spain (CEOE).

He joined Amadeus' Board of Directors in 2008 and has served as its Chairman since 2009.

Mr. Guillermo de la Dehesa Romero

Vice Chairman



Mr. de la Dehesa is a Law graduate from the Complutense University of Madrid. He also studied Economics and became an economist for the Spanish government (TCE) in 1968. In 1975 he assumed the role of Director General of the Spanish Ministry of Foreign Trade, before moving to the Spanish Ministry of Industry and Energy to assume the roles of Director General of the Ministry of Trade and Secretary General of the Ministry of Industry and Energy. In 1980 he was appointed Deputy Managing Director of the Bank of Spain, before taking a role with the Spanish government as Secretary of State for Trade in 1983 and Secretary of State for Finance in 1986 at the Spanish Ministry of Economy and Finance, where he was also a member of the EEC's ECOFIN.

He is a member of several renowned international corporate groups. Since 2002, he has served as both an independent director and the Vice Chairman of Santander's Board of Directors, as well as a member of its Executive Committee. He has also served as an independent director of Santa Lucía Vida y Pensiones (international insurance company) from 2002 to 2018, after the integration of Aviva Vida y Pensiones into Santa Lucía Group. He has also served on the Board of Directors of Campofrío Food Group from 1997 to 2014 and on the Board of San José Group until 2014. He was an international adviser for Goldman Sachs for 28 years, until 2016. He is also Chairman of the Board of the IE Business School in Madrid, Honorary Chairman of the Center for Economic Policy Research in London and a member of the Group of Thirty (G30) in Washington. He joined Amadeus' Board of Directors on April 29, 2010.

Mr. Luis Maroto Camino

President and Chief Executive Officer



Mr. Maroto became Amadeus' President and Chief Executive Officer on January 1, 2011.

From 2009 to 2010 he was Amadeus' Deputy Chief Executive Officer, responsible for the company's strategy as well as the finance, internal audit, legal and human resources functions. He was instrumental in Amadeus' return to the stock market with the company's successful IPO in April 2010.

He joined Amadeus in 2000 as Director, Marketing Finance. In that role, he supported Amadeus' commercial organization throughout its international expansion and consolidation, supervising the strategic and financial control of over 50 Amadeus subsidiaries around the world.

He was promoted in 2003 to Chief Financial Officer, taking responsibility for the global Amadeus finance organization.

Prior to joining Amadeus, he held several managerial positions at Bertelsmann Group. In 2019 he also became a director of Dufry AG (global travel retailer).

A Spanish citizen, he holds a Law degree from the Complutense University of Madrid, a Master's in Business Administration from the IESE Business School in Barcelona and further postgraduate qualifications from Harvard Business School and Stanford.

He joined Amadeus' Board of Directors as Executive Director on June 26, 2014 and was appointed *Consejero Delegado* on October 16, 2014.

Mr. William Connelly

Director



Mr. William Connelly is an Economics graduate from Georgetown University. He is currently non-executive Chairman of the Supervisory Board of Aegon NV. He is also an independent director of Société Générale Group and Self Trade Bank SAU.

He held various management positions at ING Group NV from 1995, until he became the ING Bank Management Board member

responsible for wholesale banking in 2011 until 2016. At ING he was also Chief Executive Officer of Real Estate from 2009 to 2015. He started his career from 1980 to 1990 with Chase Manhattan Bank, before joining Baring Brothers Co. Ltd. from 1990 to 1995.

He has broad financial services experience in corporate finance, financial markets, real estate and lending.

He joined Amadeus' Board of Directors on June 20, 2019.

**Dame Clara Furse**

Director



Dame Clara Furse graduated from the London School of Economics with a degree in Economics in 1979. She is the Chairman of HSBC UK, the ring-fenced bank of HSBC Group. She is also a non-executive director of Vodafone Group PLC.

She was an external member of the Bank of England's Financial Policy Committee, joining the new statutory body and macroprudential regulator in 2013 and standing down in 2016. She was a non-executive director of Nomura Holdings from 2010 to

2017. Until 2017 she was also the lead independent director of the UK's Department for Work and Pensions.

From 2001 to 2009 she was Chief Executive of the London Stock Exchange, a FTSE 100 company. During this period she was also a non-executive director of Euroclear PLC, LCH Clearnet Group Ltd. and Fortis SA, and a member of the Shanghai International Financial Advisory Council. From 2009 to 2013 she was a non-executive director of Legal & General Group.

She joined Amadeus' Board of Directors on April 29, 2010.

**Mrs. Pilar García Ceballos-Zúñiga**

Director



Mrs. García is a Law graduate of the University of Madrid, CEU San Pablo, and holds a Master's in Business Administration from the Open University, Milton Keynes, United Kingdom. She is an experienced executive with a long history in the field of technology, working in multinational environments and focusing on technological innovation and organizational effectiveness.

She was a leader at IBM Corporation for more than 25 years, during 12 of which she held high-level responsibilities in its European headquarters and across the world. She was Executive Vice President of IBM Global Digital Services, Cloud and Security, based in New York, in her last leadership position until 2016.

She was General Manager in Spain of INSA (currently ViewNext) and General Manager of Softinsa in Portugal for five years, a services company specialized in application development and infrastructure services.

She served as member of the Steering Committee of IBM Spain and Portugal, IBM Southwest Europe and INSA, leading IBM's global committees for the management and transformation of strategic and commercial areas, as well as internal process optimization.

She is currently President of the Board of Trustees for the Caja de Extremadura Banking Foundation, Liberbank, and Vice-President of the Association of Spanish Foundations since June 2019.

She joined Amadeus' Board of Directors on December 15, 2017.

**Mr. Stephan Gemkow**

Director



Mr. Gemkow holds a degree in Business Administration from Paderborn University. He began his professional career as a consultant for BDO Deutsche Warentreuhand AG in 1988, before joining Deutsche Lufthansa AG in 1990, where he held various management positions in the sales, finance and human resources areas. He served as member of the Group Executive Board (Chief Financial Officer) at Deutsche Lufthansa AG until 2012. He then

became Chief Executive Officer of Franz Haniel & Cie., a globally active family-owned portfolio management company based in Germany, until 2019. He sat on Amadeus' Board of Directors from 2006 to 2013 as a proprietary director representing Lufthansa.

He is a director of Flughafen Zürich AG (airport sector) and of JetBlue Airways Corp. (airline sector).

He joined Amadeus' Board of Directors on June 21, 2018.



**Mr. Pierre-Henri  
Gourgeon**  
Director

Mr. Gourgeon holds an Engineering degree from the École Polytechnique in Paris and the École Nationale Supérieure de l'Aéronautique, as well as a Master of Science from the California Institute of Technology in Pasadena. He has held various positions as an engineer for the French Ministry of Defense in its technical and aeronautical production departments. He was Director General of the French Civil Aviation Authority between 1990 and 1993, prior to joining Air France Group in 1993 as the CEO of Servair.

He held various positions with Air France until becoming its Chief Operating Officer in 1998, and the Chief Executive Officer of Air France-KLM from 2009 to 2011, when he left all his seats in Air France-KLM Group. He was member of the Board of Directors of Groupe Steria, a French IT business services entity for the private and public sectors, until the merger of Steria with Sopra in 2014, which ended his Board membership. In addition, he is President of his own professional consultancy, PH Gourgeon Conseil.

He joined Amadeus' Board of Directors on December 29, 2005.



**Mr. Nicolas Huss**  
Director

Mr. Huss holds a degree in Law and a master's degree in Political Science and Government, both from the University of Toulouse.

He joined Ingenico Group, a global leader in seamless payment, on July 1, 2017, as Executive Vice President, Strategy and Performance. He then became Executive Vice President, Retail Business Unit until 2018, before being appointed Group Chief Operating Officer. In the same year, he was appointed Chief Executive Officer and Board member.

He was the Chief Executive Officer of Visa Europe until June 2017. His three-and-a-half-year tenure at Visa Europe was marked by the sale of the company to Visa Inc. Post-acquisition, he was also a member of the Visa Inc. Executive Committee.

Previously, he held a variety of Chief Executive Officer roles for Apollo Global Management, Bank of America and General Electric in different European and Latin American countries. He has over 20 years of experience in the financial services industry.

He has also been a member of different Boards for Apollo, General Electric and Visa Europe. From 2015 to 2017 he was a Board member at Junior Achievement Europe, Europe's largest provider of education programs for youth and student entrepreneurship, work readiness and financial literacy.

He joined Amadeus' Board of Directors on June 15, 2017.



**Mr. Peter Kuerpick**  
Director

Mr. Kuerpick holds a doctorate in Theoretical Physics from the University of Kassel and has conducted postdoctoral research at Kansas State University and the University of Tennessee, Knoxville. He also holds a Master's in Environmental Sciences from the University of Kassel, and a Corporate Master's in Business Administration from INSEAD.

He is an operating partner at Bain Capital, London, where he is overseeing the adoption of latest IT strategies in the company's portfolio companies. He joined Bain Capital from HERE Technologies, where he oversaw software engineering as Chief Technology Officer. Previously, he held numerous technology leadership roles at HERE Technologies, Unify, Software AG and SAP, where he was instrumental in the conception and development of SAP NetWeaver.

He joined Amadeus' Board of Directors on June 21, 2018.



Mr. Francesco  
Loredan  
Director

Mr. Loredan is an Economics graduate from the London School of Economics and holds a Master's in Business Administration from INSEAD. He worked as a credit officer for Bank of America-BAI in Milan for three years and spent four years with Boston Consulting Group in Paris and Milan. In 1989 he joined BC Partners, where he was Managing Partner and Co-Chairman until December 2014. Currently he is Director of Oneiros Investments SA (private equity),

Vice-Chairman of White Bridge Investments group of companies (private equity), and a director of some of its portfolio investments (Ancorotti SRL -cosmetics-, MAP SRL -spas and wellness facilities- and Nutkao SRL -chocolate spread manufacturer-). He is also a Director of Spring SA (private equity) and a Director of Pictet Alternative Advisors, SA (private equity/hedge fund). He joined Amadeus' Board of Directors on February 21, 2005.



Mr. Josep Piqué  
Director

Mr. Piqué holds a degree in Economics and Business Studies as well as a Law degree from the University of Barcelona. He has been lecturing in Economic Theory since 1984. He also worked as economist in the Studies Service Department of La Caixa from 1984 to 1985.

On the public stage of Spain, he has been Minister of Industry and Energy (1996–2000), a government spokesman (1998–2000), Minister of Foreign Affairs (2000–2002) and Minister of Science and Technology (2002–2003). He has also been a deputy and member of the Spanish parliament.

He was Chairman and Chief Executive Officer of Ercros Group from 1992 to 1996, Chairman of Vueling from 2007 to 2013, Director of Airbus Group from 2011 to 2014, Vice Chairman and Chief Executive

Officer of OHL Group from 2013 to 2016 and an independent director of Aena from 2017 to 2019. Currently, he is the Chairman of ITP Aero, an independent director of SEAT SA and an independent director of Abengoa SA, among others.

In the field of civil society, he is member of the Board of Trustees of several foundations and associations. He is the President of the Spanish–Japanese Forum and Foundation, the Spanish–Korean Chamber of Commerce, the Search for Excellence Association, CITpax (Toledo International Center for Peace) and the Iberian–American Business Foundation. He is Vice President of the *Círculo de Empresarios* (business forum) and was President of the *Círculo de Economía* (economics forum).

He joined Amadeus' Board of Directors on June 20, 2019.



Mr. David Webster  
Director

Mr. Webster is a Law graduate from the University of Glasgow and qualified as a solicitor in 1968. He began his career in finance as a manager of the corporate finance division of Samuel Montagu & Co. Ltd. From 1973 to 1976, as Finance Director, he developed Oriel Foods, which was sold to RCA Corporation. In 1977 he co-founded Safeway (formerly Argyll Group), a FTSE 100 company, of which he was Finance Director and latterly, from 1997 to 2004, Executive Chairman. He was a non-executive director of Reed International PLC from 1992, Reed Elsevier PLC and Elsevier NV from 1999, as well as Chairman of Reed Elsevier from 1998 to 1999, retiring from all three Boards in 2002.

He has been a director in numerous business sectors and has a wide range of experience in the hotel industry in particular. For nine years he was non-executive Chairman of InterContinental Hotels Group PLC until 2012. He was non-executive Chairman of Makinson Cowell Ltd. until 2013 and a non-executive director of Temple Bar Investment Trust PLC until 2017. He is also non-executive Chairman of Telum Media Group Pte. Ltd. and Vuma Ltd., as well as a member of the Appeals Committee of the Panel on Takeovers and Mergers in London.

He joined Amadeus' Board of Directors on May 6, 2010.

Mr. Josep Piqué and Mr. William Connelly were elected for a period of three years by decision of the General Shareholders' Meeting on June 19, 2019 as a result of the increase of the number of seats on the Board from 11 to 13. The decision was submitted by the Board of Directors, upon proposal by the Nominations and Remuneration Committee.

In line with Article 35 of the bylaws of the company (term of office), the following directors were re-elected for an additional one-year term in the last Ordinary General Shareholders' Meeting of June 19, 2019:

- \_ Mr. José Antonio Tazón
- \_ Mr. Luis Maroto
- \_ Mr. Guillermo de la Dehesa
- \_ Dame Clara Furse
- \_ Mr. Pierre-Henri Gourgeon
- \_ Mr. Francesco Loredan
- \_ Mr. David Webster

Their re-election or replacement (together with that of Mr. Nicolas Huss), in line with the Directors' Selection Policy and as approved by the Board of Directors on April 21, 2016 and upon proposal by the Nominations and Remuneration Committee, will also have to be submitted for decision to the General Shareholders' Meeting in June 2020.

The financial expertise, broad management skills and dedication of the independent directors, as well as the industry knowledge of the other external directors, have contributed significantly toward the quality and efficiency of the Board's operations and committees.

Having the Amadeus Chief Executive Officer as an Executive Director of the Board of Directors reinforces the communication channel between the Board and the company's management team. This has been key in making the Board's decision-making process more efficient.

During fiscal year 2019, six Board meetings were held, with attendance by all Board members whether in person, by proxy with specific voting instructions or through telematics. An additional mail vote session also took place in 2019.

The Chairman of the Board of Directors, Mr. José Antonio Tazón, and Amadeus Group's Chief Executive Officer, Mr. Luis Maroto (Executive Director), attended all Board meetings.

## Remuneration policy

With respect to remuneration for the Chairman and non-executive directors, Amadeus offers competitive fees to fit the required

time commitment and responsibilities. As part of the Directors' Remuneration Policy, every two years the Nominations and Remuneration Committee reviews the non-executive director fee data of comparable companies in the main European indices, including the IBEX 35.

In accordance with the Directors' Remuneration (2019–2021), we have agreed to continue with remuneration based on a fixed amount for membership of the Board and of the various Board committees. We have also agreed not to implement any other complementary remuneration formula.

The policy on Board remuneration doesn't include variable remuneration based on profits or attendance fees, nor contributions to pension plans or severance agreements in case of termination of functions. No provision is made for remunerating external directors through stock awards, stock options or instruments linked to share value.

The Executive Director receives an annual base salary, payable monthly, for the performance of executive duties for the company. The purpose of this element is to reflect the market value of the role, attract talent and reward skills and experience. The total remuneration package of the Executive Director (Chief Executive Officer) consists primarily of: (i) a base salary; (ii) short-term variable remuneration; (iii) long-term variable remuneration; and (iv) other remuneration (Board fees, benefits and pension).

The Directors' Remuneration Policy (2019–2021) was approved by the Ordinary General Shareholders' Meeting of June 21, 2018 with a favorable vote of 86.49%.

The corresponding Annual Report 2018 on the Remuneration of Directors of Listed Companies was endorsed by the Ordinary General Shareholders' Meeting of June 19, 2019 with a favorable vote of 91.29% (advisory vote).

## Audit Committee



The powers vested in the Audit Committee by the Spanish Capital Companies Act, as well as the recommendations of the Spanish Good Governance Code of Listed Companies, give the Audit Committee a role that makes it more than just an advisory body to the Board of Directors on certain key matters.

The Ordinary General Shareholders' Meeting held on June 21, 2018 approved the modification of Article 42 of the corporate bylaws concerning the Audit Committee. Accordingly, the Board of Directors agreed to the modification of the corresponding Article 35 of the Regulations of the Board to adapt its content to the new wording of the corporate bylaws.

The main function of this committee is to provide support to the Board of Directors in its oversight duties by, for example, the periodic review of financial statements, internal control and risk management (including tax risk), so that major risks are duly identified, managed and disclosed.

The Audit Committee also provides support to the Board of Directors regarding compliance with all laws, regulations and internal rules affecting Amadeus. It monitors compliance with the applicable rules at a national and international level, and supervises the preparation and integrity of the company's financial information in line with regulatory requirements and the proper application of accounting principles. It also hierarchically oversees the internal audit function.

The Audit Committee meets periodically, as convened by its Chairman. For this purpose, the Board Secretariat prepares an agenda for approval by the Committee Chairman, which is sent to all participants in advance of the meeting, together with the relevant documentation for each agenda item. Apart from the Audit Committee members, certain members of the Amadeus management team may also attend the meetings with prior invitation from the Committee Chairman. The external auditors, Ernst & Young, represented by the partners in charge of Amadeus' audit, attend the meetings twice a year, unless their ad hoc attendance is required by the Committee Chairman. Minutes are drawn up by the Secretary of the Board (acting as Secretary of the Committee) on the conclusions reached at each meeting, which are included as an agenda item in the next Board of Directors' meeting, at which the Committee Chairman reports to the full Board on the most relevant points addressed and any recommendations (1) external audit (for the annual and half-year financial statements), (2) internal audit and (3) risk management.

In 2019 the Audit Committee prepared the mandatory annual report on its activities for the fiscal year 2018, covering, among others, the following areas:

- \_ Rules and regulations
- \_ Composition
- \_ Operational activity

- \_ Items discussed during fiscal year 2018 (external audit, internal audit, risk management and other items)
- \_ Related transactions
- \_ Independence of the external auditor
- \_ Functional and performance assessment
- \_ Proposals for improving the company's rules of governance

The Audit Committee currently consists of five external Board members.

Following the Technical Guide 3/2017 of the Comisión Nacional del Mercado de Valores (CNMV) on audit committee at public-interest entities, a new set of rules and regulations were adopted by the Board of Directors in December 2018, effective January 2019.

The regulations of the Audit Committee address the following areas:

1. Introduction
2. Composition
3. Requirements for appointment
4. Operating rules
5. Responsibilities and duties:
  - Oversight of financial and non-financial reporting
  - Supervision of risk management and control
  - Supervision of internal audit
  - Contact with the statutory auditor
6. Engagement of experts and other resources
7. Annual report

## Nominations and Remuneration Committee



This committee is made up of five external Board members and evaluates the competence, knowledge and experience required of members of the Board of Directors. It also:

- \_ Proposes independent directors for appointment to the Board of Directors.

- \_ Produces the report on non-independent members' appointment to the Board.
- \_ Reports to the Board of Directors on matters of gender diversity.
- \_ Proposes to the Board of Directors the system and amount of the annual remuneration of its directors, as well as the remuneration policy of the members of the Executive Committee.
- \_ Formulates and reviews the remuneration programs for senior management.
- \_ Monitors compliance with the remuneration policies.
- \_ Assists the Board in compiling the report on the Directors' Remuneration Policy and submits to the Board any other reports on compensation specified in the Board's regulations.

The Nominations and Remuneration Committee meets periodically, as convened by its Chairman. For this purpose, the Board Secretariat prepares an agenda for approval by the Committee Chairman, which is sent to all participants in advance of the meeting together with the relevant documentation for each agenda item. Apart from the Nominations and Remuneration Committee members, certain members of the Amadeus management team may attend the meetings with prior invitation from the Committee Chairman.

In 2019 the Nominations and Remuneration Committee prepared the mandatory annual report on its operations for fiscal year 2018, covering the following areas:

- \_ Competencies and duties
- \_ Composition
- \_ Operational activity
- \_ Matters addressed during fiscal year 2018 (compensation, corporate, nomination and other matters)
- \_ Nature of directorship (independent, other external, Executive Director)
- \_ List of companies in which the Board members also serve as directors and/or executive managers
- \_ Verification of compliance with the Directors' Selection Policy

In addition, the Nominations and Remuneration Committee produced the Remuneration Policy of the Board of Directors, together with the Annual Report 2018 on the Remuneration of Directors of Listed Companies.

The Directors' Selection Policy was approved on April 21, 2016. In line with this policy, the Board of Directors is committed to ensuring that its composition is diverse and balanced. Having a wide range

of views offered in Board debates fosters well-informed decision-making in the interests of the company and all stakeholders.

Both Mr. Josep Piqué and Mr. William Connelly have been appointed Board members in 2019 in line with the Directors' Selection Policy.

The Nominations and Remuneration Committee will publish an analysis of the Board's needs in line with the Directors' Selection Policy at the same time that the General Shareholders' Meeting is called in 2020. At this time, the appointment or re-election of directors will be submitted.

Minutes are drawn up by the Secretary of the Board (acting as Secretary of the Committee) on the conclusions obtained at each meeting and are included as an agenda item for the next Board of Directors' meeting. At this time, the Committee Chairman reports to the full Board on the most relevant points addressed and presents any recommendations for approval.

## Amadeus' Executive Committee

Amadeus' Executive Committee is led by the company's Chief Executive Officer (*Consejero Delegado*) and comprises the senior management leaders. ↪

This governance structure is designed to foster direct communication between Amadeus' business and its governing bodies through the *Consejero Delegado* to facilitate effective decision-making.

These are the latest changes to our Executive Committee:

Mr. Sylvain Roy has been appointed Senior Vice President of Technology Platforms and Engineering, taking over from Mr. Dietmar Fauser. Mr. Roy was in his most recent role Vice President leading Amadeus' R&D Airlines Digital products and services organization, covering more than 700 employees across 10+ sites worldwide.

↪ See "Amadeus profile," p. 13.

# Shareholders and financial institutions

## CHAPTER 10

### 10.1 Amadeus Investor Relations' mission and activity

The Amadeus strategy framework has been designed to foster viability and sustainable growth to create long-term value. Additionally, it is important for Amadeus to maintain an effective and straightforward communication with its stakeholders in capital markets, ensuring transparency.

Amadeus Investor Relations' mission is to maintain an open dialogue and build long-term relationships based on credibility and trust with its financial community, including investors, research analysts and the regulator of the Spanish market, the Comisión Nacional del Mercado de Valores (CNMV).

The Investor Relations function, which is part of the Finance function, aims to increase awareness of Amadeus and to ensure stakeholders are informed

on relevant company or industry news and our operational and financial performance. We aim to communicate effectively and proactively, in a consistent and timely manner.

Our communication policy was defined in compliance with the best practices and recommendations of good governance that are applicable to listed companies. It is based on the following principles:

- \_ Responsibility, diligence and transparency of information disclosure
- \_ Equal treatment and protection of rights and interests of stakeholders
- \_ Cooperation with shareholders

We use many different channels of communication to reach our financial community, including supervisory bodies, such as the CNMV in Spain. These entities immediately distribute the key information through their websites, which is simultaneously posted on our own corporate website. We also use the Annual General Shareholders' Meeting and Investor Day events to channel information to shareholders, as





well as an extensive investor relations program, which during 2019 included:

- Participation in investor conferences and roadshows, visiting cities all over the world such as Amsterdam, Barcelona, Bilbao, Boston, Chicago, Geneva, The Hague, Laguna Beach, London, Los Angeles, Lyon, Milan, New York, Paris, Porto, Rotterdam and San Francisco.
- Conference calls, face-to-face meetings and several large reverse roadshows in Madrid.
- Meetings and ongoing communication with the research analysts following Amadeus. 37 analysts were following our stock at the end of 2019.

In Investor Relations encourages a two-way relationship with the financial community. As well as providing our stakeholders with pertinent and relevant information, we also collect and consolidate valuable feedback, which is considered in the decision-making processes of our top management.

For the eighth year in a row Amadeus has earned the prestigious recognition of being included in the Dow Jones Sustainability Indices (DJSI), in the

IT & Internet Software and Services sector. The Dow Jones Sustainability Indices are made up of global sustainability leaders based on economic, environmental and social criteria. This success has been the result of our commitment to developing a sustainable business, which brings long-term rewards to all our stakeholders and places emphasis on the careful management of resources.

## 10.2 The stock market in 2019

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Throughout 2019 we saw a slowdown in the growth of the global economy, partly driven by geopolitical factors, such as disruptive trade wars and the ongoing uncertainty of Brexit. The International Monetary Fund recently reported a 2019 global economic growth of 2.9%, the lowest since the financial crisis. Despite this, equity markets reported strong growth in 2019, recovering from the weak performance seen during 2018.

Much of the stock market's performance can be attributed to the easing of monetary policy. The Federal Reserve lowered interest rates three times during 2019 (a sharp contrast to the four interest rate increases during 2018), while the European Central Bank also cut interest rates during the year, as part of a wider economic stimulus package.

The 2019 stock market performance was also aided by a low starting point. The last quarter of 2018 saw the worst quarterly performance in global markets in seven years, giving markets a low base of comparison as 2019 opened.

The major European equity markets reported double-digit growth in 2019 (CAC 40: 26%, DAX: 26%, EURO STOXX: 25%, FTSE 100: 12%, IBEX: 12%) while the major US equity markets grew even faster (NASDAQ: 38%, S&P 500: 29%, DOW JONES: 22%). The US equity markets were boosted by the high performance of the US technology sector, with Apple and Microsoft (which surged 85% and 54% this year, respectively), the two biggest contributors to the S&P 500's gains in 2019.

### Equity capital markets' performance in 2019



## 10.3 Amadeus' share performance

Amadeus' share price increased by 19.7% in 2019, outperforming the IBEX 35 and slightly underperforming the EURO STOXX index. Our maximum share price during 2019 was €73.88 on July 24. We closed the year at €72.80.

Our market capitalization at December 31, 2019 was €31,396 million. The average daily trading volume was 1.4 million shares, for a total traded volume of €24.7 billion for the year. The proportion of our stock in free float reached 99.88% at year-end.

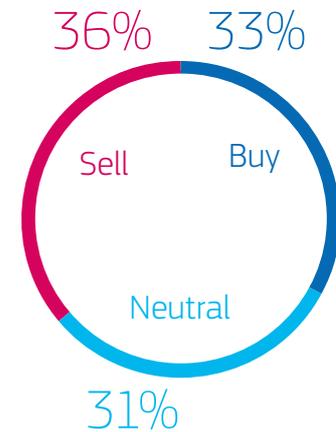
Amadeus has increased its weight within the IBEX 35 to 6.3% as of December 31, 2019, rising to the fifth largest company in the index.

In 2019 adjusted earnings<sup>1</sup> per share stood at €2.95 and on December 31, 2019 the price-to-adjusted-earnings ratio was 24.7x.

Amadeus' share performance in 2019



Analysts' recommendations at year-end 2019



<sup>1</sup> Adjusted to exclude TravelClick's acquisition related costs (amounting to €9.4 million before taxes).

## Amadeus key trading for the year

	2018	2019
Change in share price (%)	1.2%	19.7%
Maximum share price (figures in €)	82.06	73.88
Minimum share price (figures in €)	56.90	58.06
Weighted average share price (figures in €)*	67.38	68.36
Average daily volume (number of shares)	1,330,007	1,417,902
Average daily volume (figures in € thousand)	90,242	96,928
Annual volume (figures in € thousand)	23,462,832	24,716,732

\* Excluding cross trades.

## Amadeus key trading data at year-end

	2018	2019
Number of shares issued at Dec 31	438,822,506	431,268,436
Share price at Dec 31 (figures in €)	60.84	72.80
Market capitalization at Dec 31 (figures in € million)	26,698	31,396
Adjusted earnings per share, full year (figures in €)	2.60	2.95
Dividend per share, full year (figures in €)	1.175	1.30
Dividend yield, full year (%)*	1.9%	1.8%
Payout ratio, full year (%)	50%	50%
Price-to-earnings ratio at Dec 31 (x)	23.4x	24.7x

\* Based on year-end share price.

## 10.4 Shareholder remuneration

Amadeus has a proven track record of operating a solid and resilient business model that generates strong free cash flow, allowing for continued and sustained investment in R&D and innovation as well as shareholder remuneration, while maintaining a flexible financial capital structure.

Ordinary dividends paid have grown consistently every year since Amadeus' initial Public Offering (IPO), at an average annual rate of 18%. Amadeus complemented this with share repurchase programs in 2015 and 2018 with the subsequent share amortization. We aim to continue to support this growth in the coming years based on a healthy cash-generation profile and a sound balance sheet.

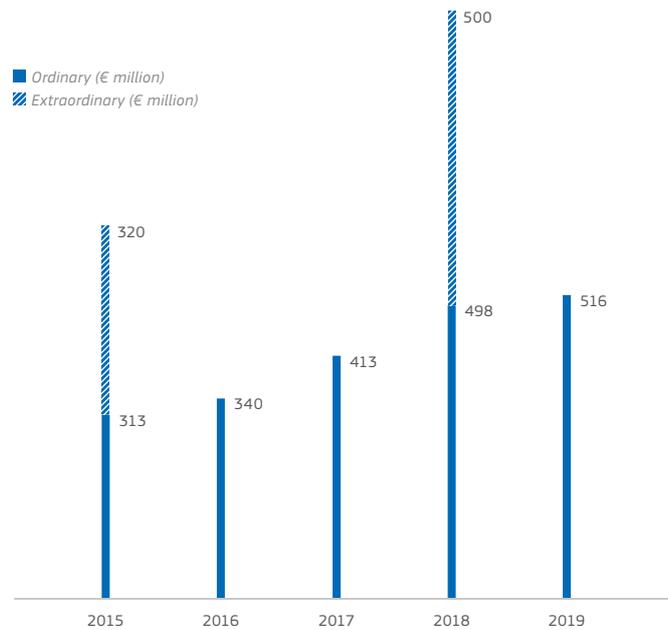
### Ordinary dividend payments

The annual gross dividend from 2018 profits was approved by our shareholders at the General Shareholders' Meeting held on June 19, 2019. The total value of the dividend increased 3.5% vs. the prior year to €515.6 million, representing a pay-out of 50% of the 2018 reported profit for the year, or €1.175 per share (gross). An interim amount of €0.51 per share (gross) was paid on January 17, 2019 and the complementary dividend of €0.665 per share (gross) was paid on July 12, 2019.

On December 12, 2019 the Board of Directors of Amadeus proposed a 50% pay-out ratio for the 2019 dividend. This was to be finalized in June 2020, when the Board of Directors were scheduled to submit to the General Shareholders' Meeting for approval, a final gross dividend of €1.30 per share, representing a 10.6% increase vs. the 2018 dividend and a 50% of the reported profit. However, while an interim dividend of €0.56 per share (gross) was paid, in full, on January 17, 2020, the complementary dividend was cancelled as part of a set of measures that the Company took in response to the COVID-19 global pandemic and its severe impact to the travel industry.<sup>2</sup>

<sup>2</sup> For more information please see relevant fact issued March 23, 2020 at <https://corporate.amadeus.com/documents/en/investors/2020/relevant-facts/q1-2020/measures-covid19.pdf>

## Amadeus shareholder remuneration



Total €3.2 billion returned since IPO. 20% ordinary remuneration CAGR 2011–2018.

## 10.5 Financial institutions

Net financial debt, as per our credit facility agreements' terms, amounted to €2,758.4 million as of December 31, 2019 (representing 1.23 times last-12-month EBITDA).

The main objectives of Amadeus' financial strategy are to reduce the cost of financing, diversify funding sources as much as possible, increase flexibility and extend the maturity profile of our debt.

The main changes to our debt in 2019 were:

- The amortization of €500 million bonds issued in May 2017, which reached maturity in May 2019.
- The increase in the use of the Multi-Currency European Commercial Paper (ECP) program by a net amount of €250.0 million.
- The repayment of €65.0 million related to our European Investment Bank loan.

On April 27, 2018 Amadeus executed a new €1,000 million Single Currency Revolving Loan Facility, with a five-year term, to be used for working capital requirements and general corporate purposes. On the same date, Amadeus cancelled both the Facility A of the Revolving Credit Facility, signed on March 5, 2015, and the Revolving Credit Facility signed on April 26, 2016, each of them amount up to €500 million. The new Revolving Facility remained undrawn at December 31, 2019.

In March 2019 Standard & Poor's confirmed its "BBB" long-term and "A-2" short-term ratings for Amadeus, with a stable outlook. In November 2019 Moody's confirmed its "Baa2" long-term rating for Amadeus, with a stable outlook.



# Closing remarks

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In 2019 the reporting of non-financial information continued to gain relevance and interest from various industry stakeholders, including investors, employees, customers and regulatory bodies. At Amadeus, we embrace this trend as a way to transparently explain our business and report our activities during the year, with a particular focus on environmental, social and governance (ESG) matters. We also acknowledge the benefits of this reporting exercise in benchmarking our performance against our peers and identifying areas for improvement. I hope you find this Global Report a good testament to our commitment to transparent reporting.

Following on from the materiality analysis we carried out in 2015, in 2019 we went through a full update of our materiality assessment. The objective of this exercise was to determine, through a thorough and systematic approach, the most relevant issues for our company, therefore those we should include in our reporting. In the four intervening years between our materiality analyses, Amadeus has significantly diversified its business and acquired companies in travel-related sectors, including large corporations like Navitaire and TravelClick, as well as specialized companies in areas like automated baggage check-in (ICM Airport Technics) or the sophisticated algorithms required to optimize the use of aircraft fleets by airlines (Optym). This diversification strategy has reinforced our global presence and positioned Amadeus well to seize new business opportunities.

Interestingly, and despite these many changes, the results of the new materiality analysis carried out in 2019 do not differ much from the previous one. We still identified R&D and innovation, system availability, customer relationship management, and talent attraction and retention as key material aspects for Amadeus. These are aspects that define our top priorities and that have been critical to maintaining our robust financial position and success over the years.

Our performance in ESG has continued to advance. Importantly, we have reduced our CO<sub>2</sub> emissions at our Data Center to zero, thanks to our energy efficiency policy and the use of Guarantees of Origin of renewable energy. Our performance in the governance area has been recognized by the Manuel Olivencia Award,

which acknowledges the best corporate governance practices by Spanish listed companies. Moreover, for the eighth consecutive year Amadeus was included in the Dow Jones Sustainability Index.

As I write these lines, the travel industry is facing the enormous challenge of the coronavirus (COVID-19). The uncertainty around this virus has forced governments around the world to take extraordinary confinement measures and to ban travel to unprecedented levels. Overcoming this challenge requires that we focus, more than ever, on some of the aspects that have made Amadeus so successful over the years. These include safeguarding the well-being of our employees, providing support to our customers in this time of difficulty, keeping our focus on innovation, and protecting our financial robustness so we can come out of this crisis prepared and ready to recover and seize opportunities.

This report provides an overview of Amadeus as a company as well as the main highlights of our activities in 2019. I hope you enjoy the read, and we look forward to receiving your comments through the contact points included at the end of the report.



*Tomas López Fernebrand*  
Senior Vice President, General Counsel  
and Corporate Secretary, Amadeus





“Our performance in ESG has continued to advance. Importantly, we have reduced our CO<sub>2</sub> emissions at our Data Center to zero.”

# About this report

## ANNEX 1

### Objectives

Today there's increasing demand from all Amadeus stakeholders for non-financial reporting, which is getting closer in terms of compulsory requirements to the financial reporting.

In addition, European non-financial reporting guidelines highlight the importance of correlation between financial and non-financial information, as well as among the various non-financial matters.

The Amadeus Global Report is fully aligned with all these trends and requirements. It presents a broad overview of Amadeus' operations and performance in the context of both financial and non-financial matters.

Importantly, the report complies with formal requirements and best practice expectations regarding the reporting of non-financial information. Thus, it represents the main platform for detailed reporting on our approach and performance in terms of labor, social, environmental and governance matters.

As a communication tool, it serves as the main source of information about Amadeus for our internal or external stakeholders.

### Methodology

#### Reporting principles

We define the content and structure of the Amadeus Global Report based on the aforementioned objectives. From that starting point, we build the report in line with global trends and regulations, including:

#### [\\_EU Directive 2014/95 on disclosure of non-financial and diversity information](#)

This EU law requires large companies to disclose certain information on the way they operate and manage social and environmental

challenges. In accordance with the Spanish transposition of the EU Directive (Law 22/2015 of July 2, modified in Law 11/2018 of December 28), we publish our yearly non-financial information statement in February.

Based on our materiality analysis, our non-financial information statement reports on the most relevant aspects of our business as well as issues relating to environmental sustainability, social responsibility, workforce, human rights, and corruption and bribery prevention. It describes our policies in relation to these matters, as well as measures implemented, the results of these policies, related risk principles, the management of these risks, and indicators of our non-financial results.

We've been reporting on our non-financial activities since 2010, and jointly with our financial and business information in the form of our Global Report since 2013. The requirements of EU Directive 2014/95 are fully aligned with our historical approach. In accordance with this law, in February of each year we advance the key figures that the Global Report will compile and release in early May.

#### [\\_Global Reporting Initiative \(GRI\)](#)

The GRI reporting framework is the main point of reference for defining the minimum topics and metrics to include in the Global Report. We select the GRI Sustainability Reporting Standards in line with our materiality analysis in order to report our impact on the economy, the environment and society.

This report has been prepared in accordance with the GRI Standards: Core option. For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report.

#### [\\_International Integrated Reporting Council](#)

This report brings together information about Amadeus' "capitals"<sup>1</sup> into a single corporate document. We explain how Amadeus' strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term. In line with the <IR> concept of connectivity, we report the activities of our various units by using cross-references to point readers to other sections for more detailed information.

<sup>1</sup> As the International Integrated Reporting Council explains in its International <IR> Framework, "capitals" are stocks of value that are affected or transformed by the activities and outputs of an organization. The framework categorizes them as financial capital, manufactured capital, intellectual capital, human capital, social/relationship capital and natural capital.

**\_Third-party verification**

The external assurance of the report by an independent organization (Ernst & Young) ensures the reliability of the quantitative and qualitative material issues listed in the GRI Content Index in Annex 2.

**\_UN Sustainable Development Goals**

Since 2018, the Global Report has included an analysis on what our value is in meeting the UN Sustainable Development Goals (SDGs). ↪<sup>1</sup> This analysis has helped us identify how our business growth has a positive impact on the protection of the environment and on social development. We are also a participant of the UN Global Compact, which has a significant coordination role regarding the SDGs.



**Production process overview**

The Global Report's production process is led by the Sustainability, Global Reporting & Certifications team, which falls under the responsibility of the Amadeus Senior Vice President, General Counsel & Corporate Secretary. ↪<sup>2</sup>

The increasing relevance of non-financial reporting means that the impact of the Amadeus Global Report grows year-on-year. As a consequence, its production includes more steps, and building the content requires a higher level of attention and resources. Besides, in line with the GRI reporting principles, we constantly aim to improve the report's balance, comparability, accuracy, timeliness, clarity and reliability.<sup>2</sup> The graph on the right provides an overview of the different stages in this process.

The complexity of building the Global Report requires constant efforts to enhance dialogue within the company, given that close to 100 employees worldwide participate in the whole process. Therefore, a strong commitment from all of them is fundamental to achieve the report's objectives.

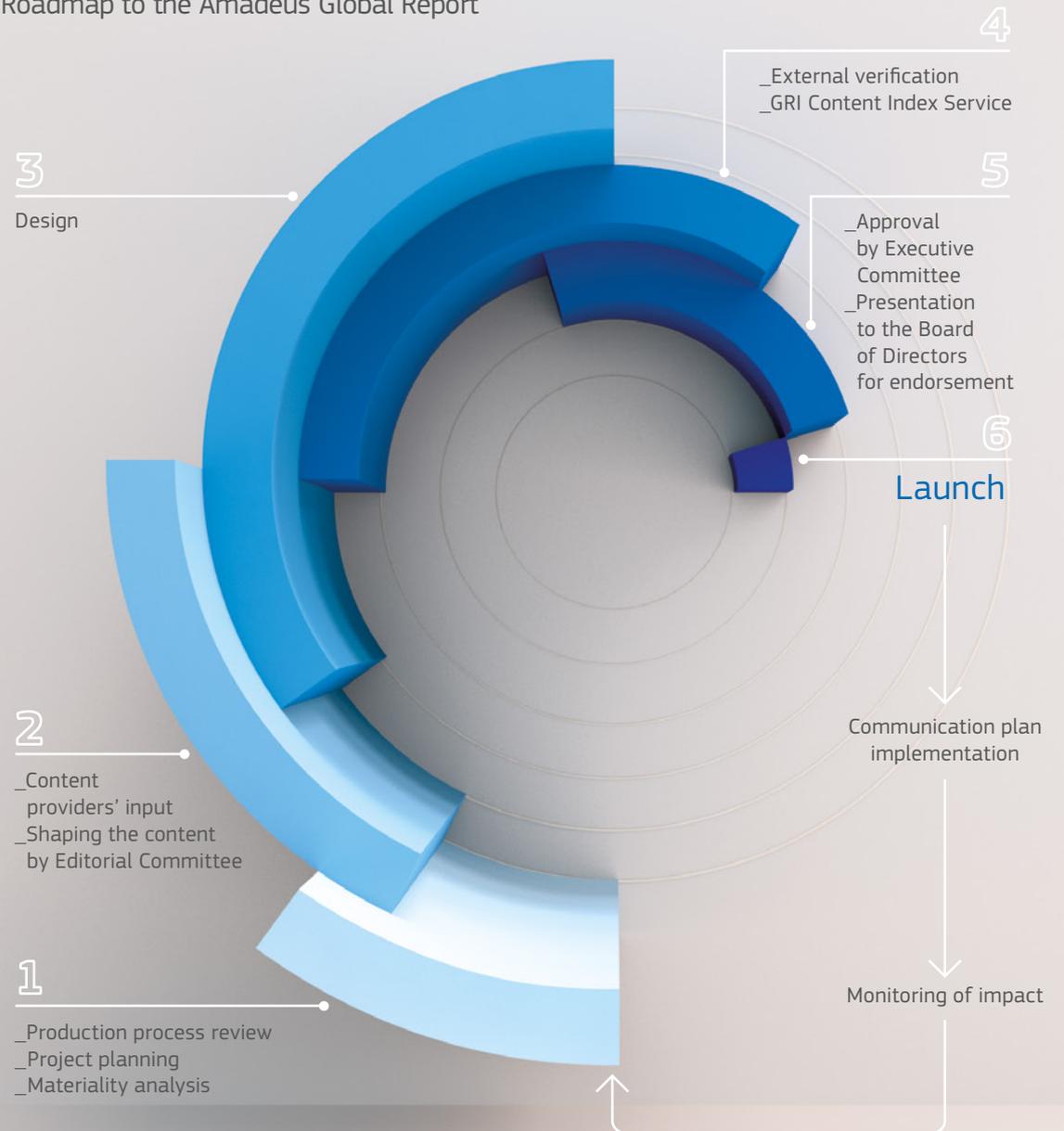
The Amadeus Global Report Editorial Committee plays a key role in shaping the content. Its main mission is to agree on the strategic overview of the content. This transversal team is composed of

↪<sup>1</sup> See "Amadeus' contribution to the Sustainable Development Goals," p. 133.

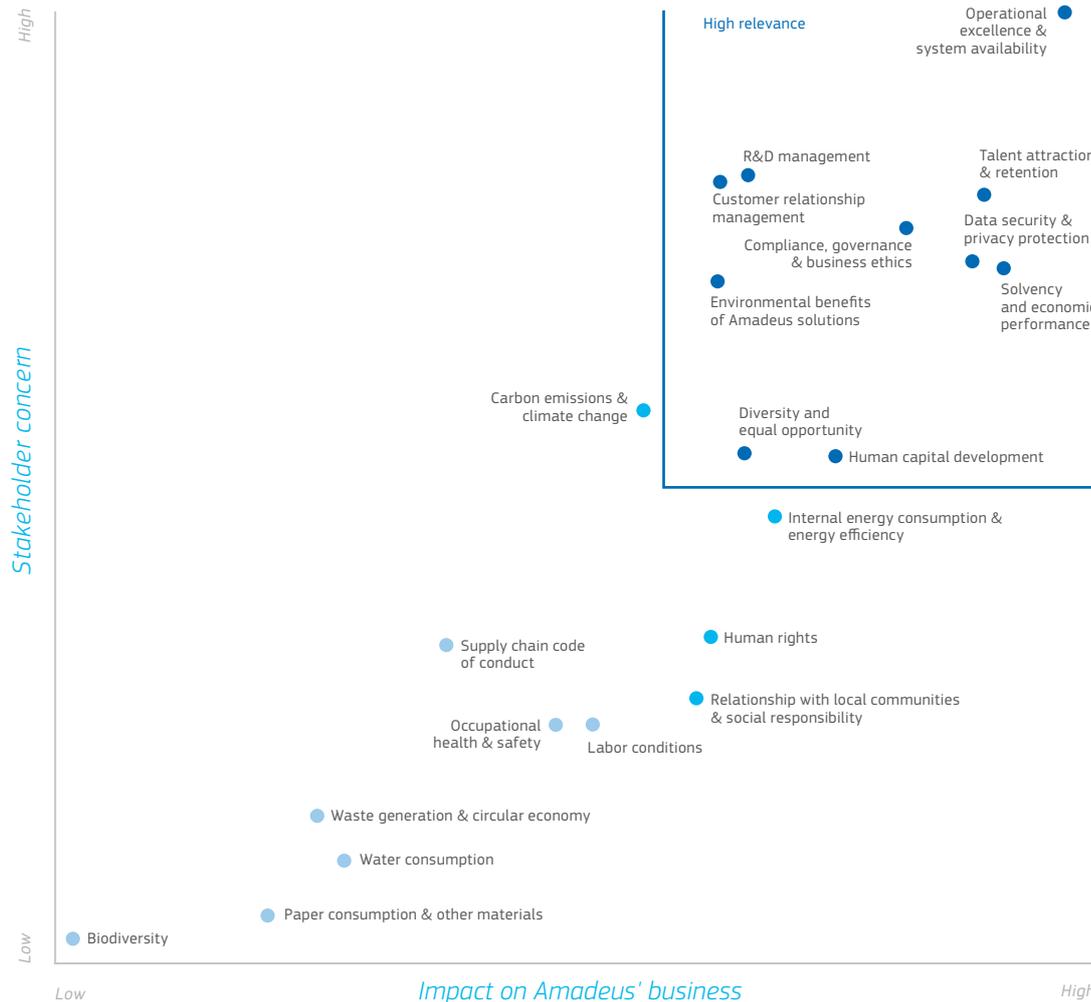
↪<sup>2</sup> See "Amadeus Executive Committee," p. 19.

<sup>2</sup> The principles for defining report quality according to the GRI Standards are explained at <https://www.globalreporting.org/standards>.

**Roadmap to the Amadeus Global Report**



## Amadeus materiality matrix



heads of key units at corporate level: Communications, Branding, Industry Affairs, Strategy, Investor Relations and CEO Office.

The Amadeus Executive Committee reviews and approves the Global Report. Once the document is endorsed by the Board of Directors, it's released through internal and external communication campaigns at all geographical levels.

## Materiality analysis

The travel industry is rapidly changing and growing, and all players need to adapt to new demands and contexts. This evolution is highly dependent on technology, and as a travel technology provider, Amadeus' business has also adapted to this complex environment. This fact, together with the new trends in non-financial reporting mentioned above, have led to our decision to conduct an in-depth review of our materiality analysis in 2019.

For this review we used the help of experts (Mazars Group). The objective was to identify the environmental, social and governance (ESG) issues relevant to our stakeholders and our business.

The assessment process consisted of the following phases:

- 1. Identification and update of relevant ESG issues**  
 The pre-selected issues were classified into three areas: (1) business and corporate governance, (2) social dimension (labor and social responsibility) and (3) environmental sustainability. The selection was mainly based on our previous materiality analysis, the latest ESG trends, best practice, and new regulation. The result included renaming and clustering some of the issues.
- 2. External assessment of relevant issues**  
 The aim of this phase was to identify the concerns of our stakeholders (e.g. customers, employees, investors or industry associations) in relation to every issue.
- 3. Internal assessment of relevant issues**  
 The consultants interviewed our top management to identify the relevance and impact of each ESG issue for Amadeus in the short to medium term.
- 4. Prioritization and materiality matrix generation**  
 The results of the previous phases above were aggregated to create the materiality matrix (see left). This matrix has two axes representing two dimensions of ESG issues: their relevance to the company and their influence on our stakeholders' assessments and decisions. Material issues are

those that exceed the average scoring on both axes.<sup>3</sup>  
 Note that this chart is an indication of principal factors rather than a precise representation.

The materiality matrix is reviewed on a yearly basis in the first phase of the production of the Global Report.

## Scope and limitations of the Amadeus Global Report

The reporting scope of the Amadeus Global Report includes the entire Amadeus Group unless otherwise indicated. This report is focused on our activities from January 1 to December 31, 2019. For comparability purposes, we include historical data for KPIs that may be relevant to the report's readership.

In terms of the data-gathering process, we considered the materiality of the information on the one hand and the effort of collecting the data on the other. As a result, we cover less than 100% of the scope for some topics. In cases where data is limited, this is specified in the corresponding section.

The materiality analysis has served to define what must be reported in more detail, as well as the information to include in the GRI Content Index. ↪ From that starting point, we report not only on our material issues but also on the main topics identified as either externally or internally relevant: carbon emissions, energy consumption, social responsibility and human rights (freedom of collective bargaining and human rights assessment).

### Material issues



<sup>3</sup> External prioritization averages 49.2 points while internal prioritization averages 61.1 out of 100.

↪ See "GRI Content Index," p. 136.

Additionally, current regulation and key sustainability rankings require that we report specific non-material issues. Therefore, for the purpose of improving overall transparency and stakeholder engagement, we've included the GRI Standards on:

- \_ Materials (paper consumption)
- \_ Water usage
- \_ Effluents and waste
- \_ Social and environmental assessments of suppliers
- \_ Occupational health and safety

In addition to the above, internal Amadeus units managing relationships with key stakeholders have provided further input of particular importance to specific stakeholders to be included in this report.

## Amadeus' contribution to the Sustainable Development Goals

The United Nations has outlined 17 Sustainable Development Goals (SDGs) for member states and businesses to strive toward by 2030. The SDGs represent a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The 17 goals balance the three dimensions of sustainable development: economic, social and environmental.

The SDGs represent a global standard and common language that facilitates targeted collaboration among a wide diversity of partners. In this respect, the SDGs help identify the best opportunities for and maximize everyone's contribution toward sustainable development.

Based on the results of our materiality analysis (described in the previous section), external experts have assessed our impact in relation to the SDGs. That assessment has had the vision of Amadeus' top management regarding our contribution to each SDG. This exercise has served to identify those areas with the highest potential for action by Amadeus. Thus, the relationship between our material issues and the SDGs' targets, quantified according to the level of our contribution, has led us to prioritize the SDGs 5, 7, 8, 9, 10, 13, 16 and 17.

Our technological innovation has tremendous potential to make a positive contribution to SDGs 8 and 9. As a travel technology company, we invest in IT solutions that help make the travel industry more sustainable over the long term. The travel industry is growing, and we need to address this growth by finding ways to travel more sustainably, thus contributing also to SDGs 7 and 13, among others.



As a global company, we create social and economic value. From the point of view of corporate governance, finance and labor practices, we aim to increase our positive impact on society. In this way, we contribute to goals that are directly linked to people's welfare (SDGs 8, 5 and 10) in aspects such as standards of living, working conditions, education, economic growth or social equality.

The goals including targets on transparent institutions and multi-stakeholder partnerships (SDGs 16 and 17) tie in very well with our

profile as a global company that connects all kind of players in the travel industry. We need to join forces with other stakeholders and share different perspectives, working together with the common goal of long-term sustainability and transparency in the industry.

The table below summarizes our main contributions to the goals per material issue. In addition, we've identified our specific actions toward these goals in 2019 and have highlighted them with an SDG icon along the different sections of the Global Report.

## Amadeus' contribution to the Sustainable Development Goals

Level of impact: Strong ● Medium-low ●

### Amadeus material issues

	5 GENDER EQUALITY	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	13 CLIMATE ACTION	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
Operational excellence and system availability			●	●		●		
Talent attraction and retention	●		●	●	●			
Solvency and economic performance			●					
Data security and privacy protection							●	
Compliance, governance and business ethics			●				●	●
R&D management			●	●				●
Environmental benefits of Amadeus solutions		●	●	●		●		●
Human capital development	●		●					
Diversity and equal opportunities	●		●		●			
Internal energy consumption and energy efficiency		●				●		
Carbon emissions and climate change						●		
Human rights	●		●		●		●	
Relationship with local communities and social responsibility			●		●			●

## Approach to stakeholder engagement

At Amadeus, we want to make sure that all our stakeholders have easy access to up-to-date information about the company. The following are the main publications concerning our performance and activities, which help ensure clear communication and transparency:

- \_ Amadeus Global Report
- \_ Consolidated Annual Accounts and Directors' Report (including Non-financial Information Statement)
- \_ Annual Report on Corporate Governance of Listed Stock Corporations
- \_ Annual Report on the Remuneration of Directors of Listed Companies
- \_ Quarterly financial results announcements
- \_ Blog posts on global, regional and local Amadeus websites
- \_ Social media updates on LinkedIn, Facebook, Twitter, Instagram and YouTube

In addition to these publications and the specific approaches to stakeholder engagement described throughout this report, ↪ we use additional channels to facilitate dialogue (see table on the right). The specific regularity of engagements depends on the need and the type of communication tool used in each instance. In any case, we interact with each stakeholder group at least once a year.

↪ See "Business lines," p. 20; "Amadeus people and culture," p. 62; "Amadeus industry affairs," p. 84; "Environmental sustainability," p. 94; "Social responsibility," p. 76; and "Shareholders and financial institutions," p. 122.

Stakeholder	Communication channel
Employees and external candidates	<ul style="list-style-type: none"> <li>_ Direct engagement through local, regional and global Amadeus People &amp; Culture teams</li> <li>_ Engagement surveys across all sites</li> <li>_ Collective bargaining agreements</li> <li>_ Employee Box email</li> <li>_ Intranet and internal weekly newsletter</li> <li>_ Participation in external events to showcase our expertise and attract new talent, covered by our social media channels</li> <li>_ <a href="https://jobs.amadeus.com/">https://jobs.amadeus.com/</a></li> </ul>
Shareholders	<ul style="list-style-type: none"> <li>_ Direct engagement through Investor Relations team and periodic reports</li> <li>_ Roadshows and conferences</li> <li>_ Investor Relations Inbox</li> <li>_ <a href="https://corporate.amadeus.com/">https://corporate.amadeus.com/</a> (specific pages for investors)</li> </ul>
Customers	<ul style="list-style-type: none"> <li>_ Regular press releases announcing new solutions, deals and other important news</li> <li>_ Guest blog posts in which our customers offer their view on the industry and how they collaborate with us</li> <li>_ Direct engagement through local, regional and global sales channels as well as customer management teams around the world</li> <li>_ Voice of the Customer Program</li> <li>_ Local and global customer support centers</li> <li>_ Customer-focused events showcasing our offerings and expertise and working on how to better collaborate with our customers, covered by our corporate blog and social media channels</li> </ul>
Suppliers	<ul style="list-style-type: none"> <li>_ Direct contact through the Amadeus Corporate Purchasing department as well as internal units and local teams across offices worldwide</li> <li>_ Social responsibility and environmental surveys</li> </ul>
Industry associations	<ul style="list-style-type: none"> <li>_ Direct engagement through participation in main industry associations</li> <li>_ Blog posts, bylines and other media engagements through which Amadeus offers its views on trending industry matters</li> </ul>
Governments, authorities and regulatory bodies	<ul style="list-style-type: none"> <li>_ Direct contact through the Industry Affairs team and local Amadeus general managers</li> <li>_ Participation in related meetings and events</li> <li>_ <a href="https://corporate.amadeus.com/">https://corporate.amadeus.com/</a> (specific pages for industry affairs)</li> </ul>
Society and the environment	<ul style="list-style-type: none"> <li>_ Direct engagement through multi-stakeholder panels</li> <li>_ Industry Affairs Box email</li> <li>_ Collaboration on joint social responsibility and sustainability initiatives</li> <li>_ Blog posts showcasing our engagement in these areas</li> <li>_ <a href="https://corporate.amadeus.com/en/sustainability">https://corporate.amadeus.com/en/sustainability</a></li> </ul>

# Quantitative information and GRI Content Index

## ANNEX 2

### Direct economic value generated and distributed\*



#### Distributed economic value

(figures in € million)

	2018	2019
Operating costs	1,525.3	1,778.3
Employee wages and benefits	1,382.1	1,543.2
Payments to providers of capital**	1,017.8	542.7
Payments to governments	287.6	335.3
	<b>4,212.8</b>	<b>4,199.5</b>

#### Generated economic value

(figures in € million)

	2018	2019
Net sales	4,935.7	5,570.1
Financial incomes	2.0	1.6
Sales of assets	0.0	0.0
	<b>4,937.7</b>	<b>5,571.7</b>

\* As defined by the Global Reporting Initiative (GRI Standard 201-1).

\*\* All financial payments made to providers of the organization's capital (interests and dividends paid).

## Tables related to environmental sustainability<sup>1</sup>



### Energy consumption

	2017	2018	2019
Electricity consumption Amadeus sites* (GJ)	135,107	201,124	211,484**
Number of employees	11,009***	17,598	19,402
Electricity consumption per employee* (GJ)	12.3	11.4	10.9
Electricity consumption Amadeus data center (GJ)	220,452	231,801	242,590****
Number of transactions processed at the data center (millions)	1,738	1,849	1,907
Electricity required per one million transactions (GJ)	126.8	125.4	127.2
<b>Total electricity consumption Amadeus sites and data center (GJ)</b>	<b>355,559</b>	<b>432,925</b>	<b>454,074</b>
Natural gas (GJ)	20,327	30,110	25,662
Diesel oil (GJ)	2,834	2,481	7,271
<b>Total energy consumption Amadeus sites and data center (GJ)</b>	<b>378,720</b>	<b>465,516</b>	<b>487,007</b>

\* Does not include Amadeus Data Center.

\*\* We achieved our 2019 target, with an increase in the percentage of renewable energy used in all Amadeus sites from 21.9% in 2018 to 26.6% in 2019.

\*\*\* The methodology to report the number of employees in Miami has been corrected in 2017 to reflect only those employees that work directly from our premises. As a result, the total number has been significantly reduced.

\*\*\*\* In 2019 we set the target to reach 90% renewable energy in our Data Center. We took a significant step forward by moving the Data Center to 100% renewable energy. This was achieved through the purchase of Guarantees of Origin of renewable energy. Thanks to this measure, we achieved our 2019 target, with an increase in the percentage of renewable energy used in the Data Center from 31% in 2018 to 100% in 2019.

### Type of fuel used for electricity generation (GJ)\*

	Coal	Fuel Oil	Natural Gas	Biofuel	Waste	Other**	Total
Amadeus sites worldwide (excluding the Data Center)	147,505	10,342	84,650	11,380	3,738	119,399	377,014
Data Center***	0	0	0	0	0	242,590	242,590

\* All figures expressed in gigajoules equivalent, obtained from the energy mix data of each country and the energy-transformation efficiency factor for each type of energy source.

\*\* Other: Nuclear, hydropower, geothermal, photovoltaic, solar thermal, wind power and tidal power.

\*\*\* In 2019 we purchased Guarantees of Origin (GOs) of renewable energy from hydropower plants in Northern Europe for all electricity used at the Data Center. Without considering the use of GOs, the energy mix for the Data Center would result in the following split, calculated as per the German energy mix: Coal: 273,163; Fuel Oil: 5,207; Natural Gas: 79,366; Biofuel: 44,896; Waste: 13,184; Other: 96,967; Total: 512,783

<sup>1</sup> Scope: Estimated total Amadeus sites worldwide. The figures for 2019 and 2018 have been calculated based on average consumption factor of the 15 sites where we measure our environmental impact directly. In 2017 we do not include this estimation in our reporting and the scope only includes top 13 Amadeus sites. For environmental reporting, given the fact that resources consumption take place across the year, we use average FTEs in the year.

## CO<sub>2</sub> emissions\*

	2017	2018	2019	Target 2019
Scope 1. Direct emissions (fossil fuels)**	1,263	1,754	1,849	1,754
Scope 2. Indirect emissions from purchased electricity**	38,810	46,463	18,213	19,597
Scope 3. Indirect emissions from other sources***	7,712	9,468	7,424	9,468
Carbon offset	8,267	16,410	-	-
CO <sub>2</sub> emissions (Scope 1 and 2) per employee	2.89	1.81	1.03	1.21
Natural gas (m <sup>3</sup> )	529,186	783,878	668,071	783,878
Diesel oil (L)	73,404	64,257	188,317	64,257

\* All figures in t of CO<sub>2</sub>, unless otherwise indicated.

\*\* Carbon offset not discounted.

\*\*\* The figure for 2017 includes emissions from air travel (9 sites) and paper use (top 13 Amadeus sites). In 2018 we expanded the coverage (10 sites for air travel emissions and 14 sites for paper use). In 2019 the scope includes 11 sites for air travel emissions and the total Amadeus paper use, estimated from the 15 sites included in the direct reporting of the EMS.

## Paper consumption

	2017	2018	2019	Target 2019
Paper consumption (kg)	47,023	79,044	66,988	79,044
Number of employees	11,009	17,598	19,402	-
Paper consumption per employee (A4 sheets per working day)	3.88	4.08	3.14	4.08

## Water consumption and waste generation

	2017	2018	2019	Target 2019
Water consumption (m <sup>3</sup> )	253,179	255,512	248,641	255,512
Total estimated waste (kg)*	315,241	507,220	427,722	507,220

\* For comparability purposes, the figures for waste do not include obsolete equipment or hazardous waste. Total obsolete equipment in 2019 was 124.1 tonnes and total hazardous waste was 8.4 tonnes. The percentage of obsolete equipment and hazardous waste that was sent for recycling in 2019 was 100% and 90% respectively. For non-hazardous waste, 51% was sent for recycling and 10% was sent to composting.

## Tables related to human resources information\*



### Diversity in the workforce

#### Workforce by employment contract by region in 2019

	Permanent	Temporary
Europe	9,709	218
Asia-Pacific	4,032	79
North America	2,826	5
South America	480	5
Middle East & Africa	418	17
<b>Total</b>	<b>17,465</b>	<b>324</b>

#### Gender diversity by employment type and contract in 2019

	Employment type		Employment contract	
	Full-time	Part-time	Permanent	Temporary
Male	10,673	210	10,720	163
Female	6,153	753	6,745	161
<b>Total</b>	<b>16,826</b>	<b>963</b>	<b>17,465</b>	<b>324</b>

	VPs and directors			Senior managers and managers			Staff		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
<b>By age range</b>									
<30	-	0	0	15	10	13	2,787	2,836	3,036
30-50	79	80	81	2,598	2,677	2,945	7,015	7,426	8,540
>50	113	109	112	870	971	1,129	1,532	1,666	1,933
<b>By gender</b>									
Male	159	154	155	2,350	2,465	2,742	6,754	7,143	7,986
Female	33	35	38	1,133	1,193	1,345	4,580	4,785	5,523
<b>Total workforce</b>	<b>192</b>	<b>189</b>	<b>193</b>	<b>3,483</b>	<b>3,658</b>	<b>4,087</b>	<b>11,334</b>	<b>11,928</b>	<b>13,509</b>

\* Scope: All employees in controlled companies, including new acquisitions in 2019. Reporting criteria between 2018 and 2019 changes, therefore is not fully comparable with previous years.

## Governance bodies

	2017	2018	2019
<b>Percentage by age range</b>			
<30	0%	0%	0%
30-50	0%	0%	0%
>50	100%	100%	100%
<b>Percentage by gender</b>			
Male	82%	82%	85%
Female	18%	18%	15%
<b>Percentage by nationality</b>			
Other than Spanish	64%	64%	54%

## Employees with disabilities

	2017	2018	2019
<b>Total</b>	<b>178</b>	<b>186</b>	<b>193</b>

## Training in 2019

### Average hours of training

	Male	Female	Total
<b>Employee category</b>			
SVPs, EVPs and VPs	6.10	2.51	<b>5.34</b>
Directors	5.76	8.10	<b>6.23</b>
Associate directors	8.08	8.49	<b>8.18</b>
Senior managers	11.66	14.76	<b>12.54</b>
Managers	16.36	17.41	<b>16.73</b>
Staff	20.05	17.43	<b>19.01</b>

### Training on Code of Ethics and Business Conduct

	Online*	Face to face	Total
Number of employees trained	1,390	434	<b>1,824</b>
Percentage of employees (FTEs) trained	8%	2%	<b>10%</b>
Number of training hours	695	868	<b>1,563</b>

\* Figures include active employees in December 31<sup>st</sup>, 2019.

### Anti-fraud policy training in 2019

Top management trained*	49
Total number of top management**	475
% of top management trained	10%

\* Only includes face-to-face training.

\* Breakdown by region is as follows: 9 employees in Asia-Pacific, 30 employees in Europe, 9 employees in North America and 1 employee in South America. Top management is not trained on yearly basis. Nevertheless the total amount of top management trained in the last three years represents almost the 100% of top management.

\*\* Top management includes associate directors, directors, vice presidents, senior vice presidents and CEO.

## Employees hires and turnover

	Employee hires				Employee turnover			
	2017	2018	2019	Rate	2017	2018	2019	Rate
	Headcounts	Headcounts	Headcounts		Headcounts	Headcounts	Headcounts	
<b>By region</b>								
Europe	1,132	1,288	1,061	11%	714	744	888	8.95%
Asia-Pacific	604	743	836	20%	337	439	557	13.55%
North America	304	287	432	15%	190	247	407	14.38%
South America	79	36	68	14%	58	55	71	14.64%
Middle East and Africa	29	42	23	5%	46	33	27	6.21%
<b>Total</b>	<b>2,148</b>	<b>2,396</b>	<b>2,420</b>	<b>14%</b>	<b>1,345</b>	<b>1,518</b>	<b>1,950</b>	<b>10.96%</b>
<b>By gender</b>								
Male	1,274	1,532	1,537	14%	820	940	1,199	11.02%
Female	874	864	883	13%	525	578	751	10.87%
<b>Total</b>	<b>2,148</b>	<b>2,396</b>	<b>2,420</b>	<b>14%</b>	<b>1,345</b>	<b>1,518</b>	<b>1,950</b>	<b>10.96%</b>
<b>By age range</b>								
<30	1,139	1,295	1,147	38%	469	526	593	19.45%
30-50	926	1,030	1,173	10%	675	805	1,117	9.66%
>50	83	71	100	3%	201	187	240	7.56%
<b>Total</b>	<b>2,148</b>	<b>2,396</b>	<b>2,420</b>	<b>14%</b>	<b>1,345</b>	<b>1,518</b>	<b>1,950</b>	<b>10.96%</b>

## Work-related injuries in 2019

	Europe		Asia-Pacific		North America		South America		Middle East and Africa		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
<b>Injuries per type</b>											
Neck or back	4	6	-	-	1	-	-	1	-	-	12
Bone	3	4	-	-	-	1	-	-	-	-	8
Soft Tissue	5	3	-	-	-	-	-	-	-	-	8
Burns	-	-	-	-	-	-	-	-	-	-	0
RMI	-	1	-	-	-	-	-	-	-	-	1
Other	47	23	-	-	-	-	-	-	-	-	70
<b>Total injuries</b>	<b>59</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>99</b>
Injury rate	5.77	6.09	0.00	0.00	0.41	0.66	0.00	2.21	0.00	0.00	3.28
Occupational diseases rate	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.07	0.00	0.00	0.01
Lost day rate	0.28	0.83	0.00	0.00	0.02	0.02	0.11	0.36	0.00	0.00	0.27
Absentee rate	1.22	2.49	0.42	1.09	0.05	0.20	0.98	0.94	0.24	0.29	1.14
Work-related fatalities	0	0	0	0	0	0	0	0	0	0	0.00

## Collective bargaining agreements

	2017	2018	2019
Percentage of employees covered by collective agreements	51%	47%	47%

## GRI Content Index\*



GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
<i>GRI 101</i>	<i>Foundation 2016</i>		
<i>GRI 102</i>	<i>General disclosures 2016</i>		
	102-1 Name of the organization	Amadeus IT Group S.A.	
	102-2 Activities, brands, products, and services	p. 10, 13-14, 20-24	
	102-3 Location of headquarters	p. 15	
	102-4 Location of operations	p. 15	
	102-5 Ownership and legal form	p. 9	
	102-6 Markets served	p. 16, 20-23	
Organizational profile	102-7 Scale of the organization	p. 8-9	
	102-8 Information on employees and other workers	p. 8, 63	
	102-9 Supply chain	p. 135	
	102-10 Significant changes to the organization and its supply chain	p. 121	
	102-11 Precautionary Principle or approach	p. 106-109	
	102-12 External initiatives	p. 87-93, 102	
	102-13 Membership of associations	p. 87-93, 111	
Strategy	102-14 Statement from senior decision-maker	p. 2-3, 4-5	
	102-15 Key impacts, risks, and opportunities	p. 11-12, 103-105	
Ethics and integrity	102-16 Values, principles, standards, and norms of behavior	p. 106-109	
	102-17 Mechanisms for advice and concerns about ethics	p. 106-109	

\* For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report.

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
Governance	102-18 Governance structure	p. 112-114	
	102-22 Composition of the highest governance body and its committees	p. 19, 114-118	
	102-23 Chair of the highest governance body	p. 114	
	102-24 Nominating and selecting the highest governance body	p. 113, 120-121	
	102-26 Role of highest governance body in setting purpose, values, and strategy	p. 112-113	
	102-30 Effectiveness of risk management processes	p. 106-109, 111, 119-120	
	102-32 Highest governance body's role in sustainability reporting	p. 131	
Stakeholder engagement	102-35 Remuneration policies	p. 119-121	
	102-40 List of stakeholder groups	p. 89, 135	
	102-41 Collective bargaining agreements	p. 142	
	102-42 Identifying and selecting stakeholders	p. 84, 135	
	102-43 Approach to stakeholder engagement	p. 135	
	102-44 Key topics and concerns raised	p. 132-133	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
Reporting practice	102-45 Entities included in the consolidated financial statements	Amadeus Consolidated Annual Accounts 2019. Appendix: Summary of the consolidated companies and joint ventures and associates (p. 64-72).	
	102-46 Defining report content and topic Boundaries	p. 131-132	
	102-47 List of material topics	p. 132	
	102-48 Restatements of information	There have not been any re-statements of information provided in previous reports.	
	102-49 Changes in reporting	There isn't any significant change from previous reporting periods.	
	102-50 Reporting period	2019	
	102-51 Date of most recent report	2019 (information regarding 2018)	
	102-52 Reporting cycle	Annual	
	102-53 Contact point for questions regarding the report	p. 158	
	102-54 Claims of reporting in accordance with the GRI Standard	p. 130	
	102-55 GRI content index	p. 143-151	
	102-56 External assurance	p. 152	
<i>Material topics</i>			
<b>Carbon emissions and climate change</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 101-102	
	103-2 The management approach and its components	p. 101-102	
	103-3 Evaluation of the management approach	p. 101-102	
GRI 201 Economic performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	p. 103-105	
GRI 305 Emissions 2016	305-1 Direct (Scope 1) GHG emissions	p. 138	
	305-2 Energy indirect (Scope 2) GHG emissions	p. 138	
	305-3 Other indirect (Scope 3) GHG emissions	p. 138	
	305-4 GHG emissions intensity	p. 138	
	305-5 Reduction of GHG emissions	p. 98-100, 138	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
<b>Compliance, governance &amp; business ethics</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 85, 106-109, 111-112	
	103-2 The management approach and its components	p. 85, 106-109, 111-112	
	103-3 Evaluation of the management approach	p. 85, 106-109, 111-112	
GRI 205 Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	p. 107-109	
	205-2 Communication and training about anti-corruption policies and procedures	p. 140	
	205-3 Confirmed incidents of corruption and actions taken	In 2019 Amadeus didn't identify any incidents of corruption.	
GRI 206 Anti-competitive behavior 2016	206-1 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	In 2019 there were no legal actions for anticompetitive behavior, anti-trust and monopoly practices.	
GRI 307 Environmental compliance 2016	307-1 Non-compliance with environmental laws and regulations	In 2019 there was not imposed on the Group either a penalty for incidents or breaches or a significant fine on environmental issues.	
GRI 415 Public policy 2016	415-1 Political contributions	Amadeus does not make contributions to political parties.	
GRI 419 Socioeconomic compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	In 2019 there was not imposed on the Group either a penalty for incidents or breaches or a significant fine on social issues.	
<b>Customer relationship management</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 16, 28-30, 39-40	
	103-2 The management approach and its components	p. 16, 28-30, 39-40	
	103-3 Evaluation of the management approach	p. 16, 28-30, 39-40	
<b>Data security &amp; privacy protection</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 58, 109-110	
	103-2 The management approach and its components	p. 58, 109-110	
	103-3 Evaluation of the management approach	p. 58, 109-110	
GRI 418 Customer privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	In 2019 there was no specific complaints regarding breach of customer data.	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
<b>Diversity and equal opportunities</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 66-67	
	103-2 The management approach and its components	p. 66-67	
	103-3 Evaluation of the management approach	p. 66-67	
GRI 405 Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	p. 139-140	
<b>Environmental benefits of Amadeus solutions</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 94-95	
	103-2 The management approach and its components	p. 94-95	
	103-3 Evaluation of the management approach	p. 94-95	
<b>Human capital development</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 62	
	103-2 The management approach and its components	p. 62	
	103-3 Evaluation of the management approach	p. 62	
GRI 404 Training and education 2016	404-1 Average hours of training per year per employee	p. 140	
	404-2 Programs for upgrading employee skills and transition assistance programs	p. 64-65	
<b>Human rights</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 107-108	
	103-2 The management approach and its components	p. 107-108	
	103-3 Evaluation of the management approach	p. 107-108	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
GRI 412 Human Rights Assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	Amadeus has conducted a risk assessment of Human Rights in a selected number of countries. The assessment considers how each of these human rights are rated in terms of probability and impact, and how each of these Amadeus companies comply with their employees, as well as how these companies' providers and suppliers comply with their own employees. The risk assessment has been made in 38 countries in all regions, which represents around 16% of the total number of affiliates.	
	412-2 Employee training on human rights policies or procedures	p. 140	
<b>Internal energy consumption</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 101-102	
	103-2 The management approach and its components	p. 101-102	
	103-3 Evaluation of the management approach	p. 101-102	
GRI 302 Energy 2016	302-1 Energy consumption within the organization	p. 137	
	302-2 Energy consumption outside of the organization	In 2019 energy consumption outside of the organization has been 99,373 GJ.	
	302-3 Energy intensity	p. 137	
	302-4 Reduction of energy consumption	p. 98	
	302-5 Reductions in energy requirements of products and services	p. 58	
<b>Occupational health &amp; safety</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 69	
	103-2 The management approach and its components	p. 69	
	103-3 Evaluation of the management approach	p. 69	
GRI 403 Occupational Health and Safety 2016	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	p. 142	
<b>Operational excellence &amp; system availability</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 23-24	
	103-2 The management approach and its components	p. 23-24	
	103-3 Evaluation of the management approach	p. 23-24	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
<b>Paper consumption and other materials</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 101-102	
	103-2 The management approach and its components	p. 101-102	
	103-3 Evaluation of the management approach	p. 101-102	
GRI 301 Materials 2016	301-1 Materials used by weight or volume	p. 138	
<b>Relationship with local communities and social responsibility</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 76-77	
	103-2 The management approach and its components	p. 76-77	
	103-3 Evaluation of the management approach	p. 76-77	
GRI 413 Local communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	p. 79	
GRI 203 Indirect economic impacts 2016	203-2 Significant indirect economic impacts	p. 79	
<b>R&amp;D management</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 60-61	
	103-2 The management approach and its components	p. 60-61	
	103-3 Evaluation of the management approach	p. 60-61	
<b>Solvency and economic performance</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 8-9	
	103-2 The management approach and its components	p. 8-9	
	103-3 Evaluation of the management approach	p. 8-9	
GRI 201 Economic performance 2016	201-1 Direct economic value generated and distributed	p. 136	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
<b>Supply chain code of conduct</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	In addition to the most relevant aspects determined from the materiality analysis, we report on other matters for the purpose of improving overall transparency and stakeholder engagement. Most of our external providers fall under the following categories: _ Consulting and marketing services _ Hardware providers _ Software providers _ Data communication providers	
	103-2 The management approach and its components	From a supply chain perspective, our activity is related to online transaction processing and technology development. In this context, Amadeus' exposure to third-party providers who may not comply with minimal social or environmental requirements is low, and that is why our external reporting is limited. Despite having around 10,000 vendors, our top 50 represent approximately 62% of our total spend with external providers. Nonetheless considering total number of providers, 37% would be the total procurement spend. This facilitates our control and access to information in the supply chain.	
	103-3 Evaluation of the management approach	The Amadeus Corporate Purchasing Policy aims at ensuring that all employees involved in the procurement of goods and services factor in social and environmental responsibility aspects in their purchasing decisions. An organization of local, regional and global Amadeus purchasing teams oversees the operations on the supply chain side and deals with both internal stakeholders and vendors.	
GRI 308 Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	100 % of new suppliers in Madrid, US, Philippines and Dubai were screened using environmental criteria. There was a total of 411 new suppliers, representing 6.13% of total Amadeus suppliers. Amadeus has implemented a new Vendor Creation process. For the time being is only available in Madrid, US, Philippines and Dubai. The other main sites (Nice, Erding and Bengaluru) will be included in early 2020 and then, gradually, the other countries. As part of this process, Amadeus has a mandatory questionnaire to be completed by all the vendors which includes issues related to human rights, discrimination or environmental policies. If suppliers respond incorrectly they can not move forward in the process and Amadeus could not work with them.	
	308-2 Negative environmental impacts in the supply chain and actions taken	In 2019 Amadeus didn't identify any environmental impact in the supply chain.	

GRI standard	Disclosure	Page number(s) / direct answer(s)	Omission(s)
GRI 414 Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	100 % of new suppliers in Madrid, US, Philippines and Dubai were screened using social criteria. There was a total of 411 new suppliers, representing 6.13% of total Amadeus suppliers. Amadeus has implemented a new Vendor Creation process. For the time being is only available in Madrid, US, Philippines and Dubai. The other main sites (Nice, Erding and Bengaluru) will be included in early 2020 and then, gradually, the other countries. As part of this process, Amadeus has a mandatory questionnaire to be completed by all the vendors which includes issues related to human rights, discrimination or environmental policies. If suppliers respond incorrectly they can not move forward in the process and Amadeus could not work with them.	
	414-2 Negative social impacts in the supply chain and actions taken	In 2019 Amadeus didn't identify any social impact in the supply chain.	
<b>Talent attraction &amp; retention</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 62, 64, 68-70	
	103-2 The management approach and its components	p. 62, 64, 68-70	
	103-3 Evaluation of the management approach	p. 62, 64, 68-70	
GRI 401 Employment 2016	401-1 New employee hires and employee turnover	p. 141	
<b>Waste generation and circular economy</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 96	
	103-2 The management approach and its components	p. 96	
	103-3 Evaluation of the management approach	p. 96	
GRI 306 Effluents and waste 2016	306-2 Waste by type and disposal method	p. 138	
<b>Water consumption</b>			
GRI 103 Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 96	
	103-2 The management approach and its components	p. 96	
	103-3 Evaluation of the management approach	p. 96	
GRI 303 Water 2016	303-1 Water withdrawal by source	p. 138	



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#### INDEPENDENT REVIEW REPORT OF THE AMADEUS GLOBAL REPORT 2019 OF AMADEUS IT GROUP, S.A. AND SUBSIDIARIES

To the Management of Amadeus It Group, S.A. and Subsidiaries:

##### Scope

As commissioned by the Management of Amadeus It Group, S.A. and Subsidiaries (hereinafter, Amadeus), we have carried out the review of the 2019 Amadeus Global Report. This information has been prepared in accordance with GRI Sustainability Reporting Standards (GRI Standards) core option, as detailed in "Annex 1. About this report."

The scope considered by Amadeus for the preparation of the Report is defined in "Annex 1. About this report."

The preparation of the attached report, as well as its content, is the responsibility of the Management of Amadeus, which is also responsible for defining, adapting and maintaining the management and internal control systems from which the information is obtained. Our responsibility is to issue an independent report based on the procedures applied in our review.

##### Criteria

Our review was carried out based on:

- The guidelines for reviewing Corporate Responsibility Reports, issued by the Spanish Official Register of Auditors of Accounts (ICJCE).
- Standard ISAE 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standard Board (IAASB) of the International Federation of Accountants (IFAC), with a limited assurance scope.

##### Applied procedures

Our review consisted in requesting information from the Sustainability Department and the various business units participating in the preparation of the Amadeus Global Report 2019, applying processes and analytical procedures, and sampling review tests as described in the general terms below:

- Interviews with the staff in charge of the preparation of the sustainability information in order to gain a deep understanding of how the objectives and sustainability policies are considered, set into practice, and integrated within Amadeus's global strategy.
- Reviewing the processes for the compilation and validation of the information presented in Amadeus Global Report 2019.
- Checking the processes held by Amadeus in order to define the material aspects and stakeholder participation.
- Reviewing the adaptation of the structure and content of the 2019 Amadeus Global Report, as indicated in the GRI Sustainability Reporting Standards of the Global Reporting Initiative, in accordance with the core option.

- Checking selected samples of the quantitative and qualitative information of the contents included in the 2019 Amadeus Global Report, as well as their adequate compilation from data supplied by information sources. The review tests have been defined to provide the aforementioned assurance levels.
- Checking that the financial information included in the Report has been audited by independent third parties.

These procedures have been applied to the contents in "Annex 2. Quantitative information and GRI Content Index," with the aforementioned scope.

The scope of our review is considerably lower than a reasonable assurance report. Therefore, the degree of assurance is also less extensive. This report in no case should be considered as an audit report.

##### Independence and quality control

We have complied with the requirements of independence and the other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (IESBA, for its acronym in English).

Our firm applies the International Standard on Quality Control 1 (ISQC 1) and maintains, as a result, a global quality control system that includes documented policies and procedures related to compliance with ethical requirements, professional standards, and legal and regulatory provisions.

Our work has been performed by a team of sustainability experts with a wide experience in reviewing this type of information.

##### Conclusions

As a result of our limited review, we conclude that no matter came to our attention that would indicate that the 2019 Amadeus Global Report has not been prepared, in all material respects, according to the GRI Standards sustainability reporting framework, which includes the data reliability, the adequacy of the information presented and the absence of significant deviations and omissions.

This report has been prepared solely for the management of Amadeus, in accordance with the terms set out in our engagement letter.

ERNST & YOUNG, S.L.

Alberto Castilla Vida  
Socio  
April 17, 2020



# Glossary

ANNEX 3

## Amadeus air travel agency bookings:

Air bookings processed by travel agencies using Amadeus' distribution platform.

## Ancillary services:

Additional services provided to customers beyond the ticket. Typical examples of airline ancillary services include extra baggage, priority seating, catering on board, etc.

## API:

Application Programming Interface, a language that enables communication between computer programs.

## CRS:

Computer Reservation System, a computer network containing travel-related information such as schedules, availability, fares and other services, which enables automated travel-related transactions between travel providers and travel agents.

## GDS:

A Global Distribution System, a computer network containing travel-related information such as schedules, availability, fares and related services, which also enables automated travel-related transactions between travel providers and travel agents. In addition to providing a Computer (see CRS entry above) Reservation System, GDSs offer travel-related content to a broad range of agents worldwide, making global reach an important element of their value proposition.

## IATA:

International Air Transport Association, the trade association for the world's airlines, representing 265 airlines or 83% of total air traffic. IATA supports many areas of aviation activity and helps formulate industry policy on critical aviation issues.

## IFRS:

International Financial Reporting Standards. The IFRS® Foundation is a not-for-profit international organization responsible for developing a single set of high-quality global accounting standards, known as IFRS Standards.

### International Integrated Reporting Council:

A global coalition of regulators, investors, companies, standard setters, accounting professionals and non-governmental organizations sharing the view that communication about value creation should be the next step in the evolution of corporate reporting.

### IT transaction:

A single message received from a user that requires one or more responses to be sent. A user can be a person or a computer system.

### KPI:

Key Performance Indicator.

### NDC:

NDC refers to New Distribution Capability, a program launched by IATA for the development and market adoption of a new XML-based data transmission standard (NDC Standard) between airlines and travel agencies. IATA establishes various levels of NDC certification, depending on the NDC capabilities.

### Open systems:

In computing and informatics, a class of systems built using open source software standards that offer a high level of portability and independence from the hardware platforms on which they operate, especially in contrast to the more entrenched mainframes that were once common in the travel industry.

### Passengers boarded:

Actual passengers boarded onto flights operated by airlines using at least the Amadeus Altéa Reservation and Inventory modules or Navitaire New Skies.

### PCI-DSS:

Payment Card Industry Data Security Standard, a proprietary information security standard for organizations that handle branded credit cards from major card brands. Mandated by the card brands and run by the Payment Card Industry Security Standards Council, the standard was created to increase controls around cardholder data to reduce credit card fraud.

### PPA:

Purchase Price Allocation.

### Property Management System:

A computerized system that facilitates the management of hotel properties.

### PNR:

Passenger Name Record, a record of passengers' travel requirements containing all the necessary information to enable reservations to be processed and controlled by the booking and participating travel provider. Each PNR must contain the following five mandatory items or "elements": name element (passenger name), itinerary element (booking), contact element (a telephone number), ticketing element (arrangement for issuing a ticket) and received from element (name of the person who made the booking).

### PSS:

Passenger Service System, a series of mission-critical systems used by airlines. The PSS usually comprises a Reservation System, an Inventory System and a Departure Control System (DCS).

### PUE:

Power Usage Effectiveness, a common metric used to measure the energy efficiency of data centers. It is equal to Total Facility Power/IT Equipment Power. The closer to 1 the PUE, the more efficient the data center is.

### Transactions processed at the Amadeus Data Center:

Basic operations linked directly to Amadeus' business, such as bookings or processed passengers boarded.

### Travel agency air booking industry:

Total volume of travel agency air bookings processed by the global CRSs. It excludes air bookings made directly through in-house airline systems or single country operators, the latter primarily in China, Japan and Russia, which together combined represent an important part of the industry.



This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

This report includes pictures of people taken at public industry or specific Amadeus events attended by media representatives and communications departments that make use of several several types of graphical material, including pictures of attendees to the event. By entering the event premises, they consented to authorizing Amadeus to photography and its release, publication, exhibition or reproduction to be used for internal communication, or for any other fair and lawful purpose related to any of the businesses of Amadeus, inclusion on websites or the cloud. They can have access to, correct, delete and object to the processing of personal data and they may exercise this right at any time by writing to the following email address: [industry.affairs@amadeus.com](mailto:industry.affairs@amadeus.com).

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