THINK
ACT

May 2017

Spread your wings

In-flight connectivity is a new opportunity for the airline business

Roland Berger

THE BIG

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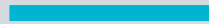
TOP 3

On-board Internet is one of the top-three flight selection criteria for passengers.

Page 7

1-4 EUR

per passenger can be expected to earn from activities made possible by on-board connectivity by airlines.

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3

In-flight connectivity is one of the three key drivers of digitization in aviation.

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Want to see what lies in store for the airline industry? Then take a look at what's happening on the roads.

A number of trends are shaping today's automotive industry. One of the most transformative perhaps is the advent of autonomous vehicles, set to redefine the automotive world as we know it. Google and Apple have already set their sights on the global car market, attracted by the ongoing need for mobility, the size of the segment, and its associations with lifestyle and quality of life.

But fully autonomous vehicles and autopilot systems requiring minimal supervision from drivers do something else that is potentially almost as important. They give drivers more time to spend online, whether through their vehicle's Internet connection or their smartphones and other devices. Unsurprisingly, the big Internet players are extremely interested in capturing this market – one of the few remaining markets currently not served.

The implications for the airline industry are clear. Today's airline passengers, of whom there are one billion and counting, are an underserved market waiting to be captured. Already, 83 percent of travelers carry a smartphone on board, and almost half have a laptop with them. People are increasingly booking air, hotel and travel packages online. On-board Internet is not just a service that is demanded by customers: It is a valuable channel for selling additional services to them. → **A**

Research carried out by GfK (Gesellschaft für Konsumforschung, a global market and consumer information provider) for Inmarsat indicates that customers increasingly expect Internet connectivity while on board. A survey of more than 9,000 passengers from nearly 30 different countries found that over 90 percent of customers who had the option of Internet access during their flight used it. And even more significantly, two-thirds of them were willing to pay for it.

Some airlines have already introduced in-flight connectivity. Many US carriers took this step a few years back. Now European players such as Lufthansa Group, AF-KLM and IAG are introducing the latest generation of high-speed Internet connections on their narrow-body fleets. The industry is increasingly aware of the range of products and possible uses, which include not just passenger Internet browsing but also permanent luggage tags, advanced electronic flight bags, location-based services, on-board security, and other possibilities.

For the airline industry, this is a chance that has come at an opportune moment. Most airlines are alrea-

dy fully exploiting the more obvious levers for optimization. Seat load factors are maxed out and few areas for cost-cutting remain. Ticket yields are declining and customers' willingness to pay for standard services such as in-flight catering and the flight itself is limited. But in recent years we have seen that passengers will reach into their pockets for value-added services such as speedy boarding and a fast-track passage through security controls. Airlines need to find new ways to make customers pay for products and services – and on-board Internet can be a useful part of that.

At the moment, many airlines are hesitant to invest in installing on-board Internet access. Over the last few months we've spoken to more than thirty different airlines, canvassing their views and opinions. Some see connectivity primarily as just another product to sell on board, like a buy-on-board sandwich or a cup of coffee. Others believe that it can make a valuable contribution to generating extra revenues.

In this paper we answer some of the questions facing the industry: What do passengers really want? Is now the right time for me to commit to in-flight connectivity? What is my business case here? We also delve into the detail of how exactly airlines can make money by offering on-board connectivity.
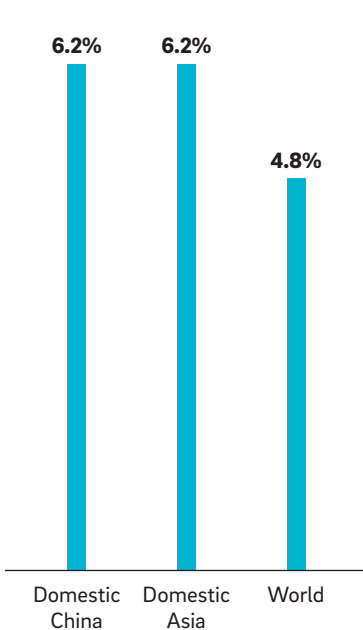
A

NOT WITHOUT MY SMARTPHONE!
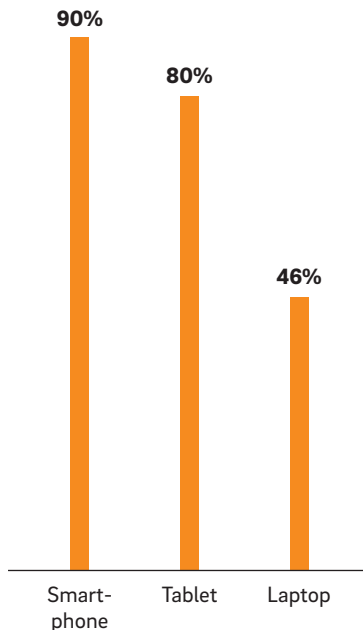Travelers want their devices with them at all times.

CONTINUED GLOBAL AIR PASSENGER GROWTH
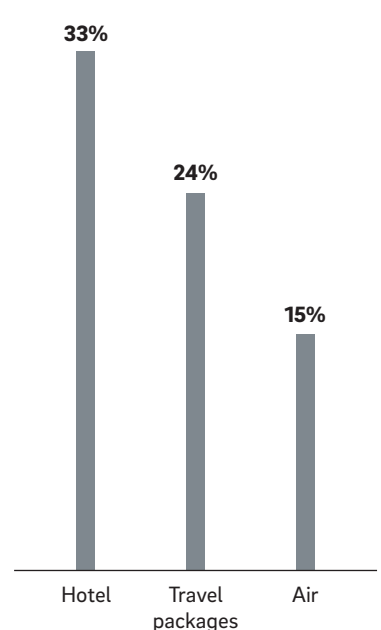Expected pax traffic growth 2015-2035 p.a.

CHANGING, MORE DIGITAL PASSENGER DEMANDS
Share of European short-haul passengers who want to use their own device to connect in-flight

GROWTH OF NEW TRAVEL TECHNOLOGIES
Share of mobile bookings[1]

6.2%	6.2%	4.8%
Domestic China	Domestic Asia	World

90%	80%	46%
Smart-phone	Tablet	Laptop

33%	24%	15%
Hotel	Travel packages	Air

1 Apps not included, 2ⁿᵈ half of 2015

Source: Boeing, SiTA, Criteo, GfK for Inmarsat, Roland Berger

Passengers want to stay connected while on board. And the economic case is growing stronger by the day.

1. PASSENGERS KNOW WHAT THEY WANT …

In-flight connectivity means the ability of passengers to use high-speed digital services while in the air – services such as Internet browsing, emails, chat, social interactions, gaming, connected apps, news feeds and video. As well as allowing passengers to reach outwards, high-speed Internet on board also opens the door for airlines to reach inwards to their customers with targeted retail, personal shopping services and the like.

Passengers want to stay connected while on board: That much is beyond question. The Inmarsat survey we referred to above revealed overwhelming passenger demand for in-flight connectivity. Far more passengers (54%) would prefer in-flight Internet to in-flight meals (19%) or entertainment (16%). In today's world we expect to stay connected wherever we are, whenever we want.

The good news for airlines is that a majority of passengers say that they're willing to pay for Internet access while on board. The Inmarsat survey found that two-thirds of passengers are prepared to dig into their pockets for in-flight connectivity on flights of any length: 64 percent of passengers in Latin America, 67 percent in the Asia-Pacific region, and as many as 69 percent in Europe.

High-speed Internet connection is also an increasingly important factor when customers select which airline to fly with. Traditionally, most passengers are cost-conscious and choose their flights mainly on the basis of price. For business travelers, schedule quality is also relevant as this allows them to make the most efficient use of their time. Other criteria such as frequent flyer programs and brand also play a role in the choice of airline, but to a lesser extent.

Our interviews with more than 20 airlines revealed that the factors influencing passengers' choices have shifted to a certain degree. On flight search engines, availability of on-board Internet has become one of the top-three selection criteria for passengers, alongside the traditional factors. **→ B**
In-flight connectivity has the potential to enhance the on-board passenger experience, making it both smoother and richer. Indeed, many airlines' efforts to introduce Internet access during flights are driven primarily by customer perceptions.

Added to this is the fact that technology has made huge leaps forward in recent years. This is transform-

B

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MAKING THE MOST OF MY TIME ON BOARD
Top decision factors when choosing a flight.

YESTERDAY

1. Price

2. Schedule

3. Other – brand, product features, etc.

TODAY/TOMORROW

1. Price

2. Schedule

3. Wi-Fi

4. Other – brand, product features, etc.

Source: Roland Berger

ing the overall economics of on-board connectivity. Quality of service has risen as cost per bit has fallen. In the past, few passengers would have been willing to pay a premium price for the slow, unstable, low-bandwidth services available. Now, a paid-for service for quality Wi-Fi is a much more attractive value proposition. We are passing the threshold beyond which airlines can offer real-time on-board applications for retail, flight operations, customer service, air-to-ground cabin processes and the like. → **C**

Where does that leave us? At present, in-flight connectivity is a differentiation factor. Offer it, and you can set yourself apart from your competitors and win market share. In the medium term, however, we believe that it will become little more than a hygiene factor. Today's passengers are willing to pay for Internet access on board but tomorrow's passengers may expect it for free. Airlines that fail to meet passengers' digital expectations risk seeing them switch their allegiance to other providers. The window of opportunity for airlines will not be open forever, and those airlines that move first can secure an advantage over their competitors.

2. … AND IT'S NOT JUST A BUY-ON-BOARD SANDWICH

The decision about when and how to commit is causing headaches for many airlines. What do passengers really want? Is now the right time to move on connectivity? Is the business case really strong enough? We address some of the key questions in the text below.

QUESTION: How can I extract value from passengers' desire for connectivity? Which products should I offer to maximize this opportunity?
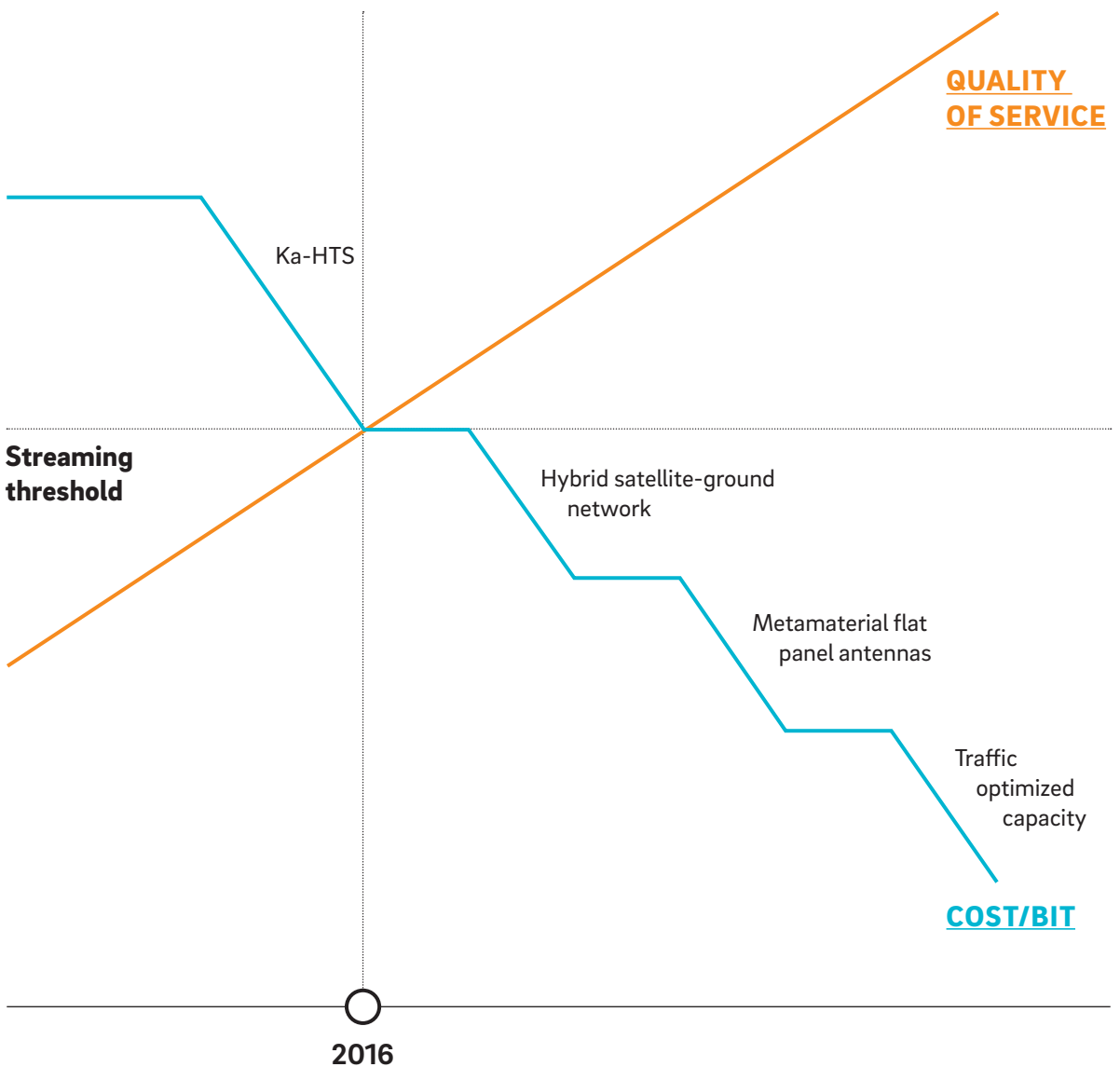**ANSWER:** Your first challenge is to engage passengers. Offer them relevant products depending on the browsing context. Involve digital third parties at the appropriate time for them to sell: when your audience is on board, captive, and surfing.

The second challenge is to create impulse-buying opportunities using real-time digital information – the ability to upgrade on the go, to move from free to premium, to have products delivered directly to passengers' homes, to redeem points for a much wider array of products. The aim is to make the overall passenger experience easier and smoother.

C

QUALITY OF SERVICE IS UP, COST PER BIT DOWN

The economics of in-flight connectivity are changing.

QUALITY OF SERVICE

Ka-HTS

Streaming threshold

Hybrid satellite-ground network

Metamaterial flat panel antennas

Traffic optimized capacity

COST/BIT

2016

Note: This is a schematic representation

Source: Roland Berger

Remember that you have a strong position due to the large amounts of personal and non-personal data about passengers at your fingertips. Use that data to make the products you offer not only personalized but destination-specific, for example.

QUESTION: Is now the right moment to commit to in-flight connectivity? When should I move?
ANSWER: Technology is reaching a level where the speed, latency and reliability of on board connectivity alters its overall economics. And things aren't standing still either: Continuous technological development means that the situation will likely look different again in three to five years' time.

Now is the time for action. Find a partner who not only provides you with the latest technology but is willing to let you participate in ongoing improvements and cost reductions. This will create a win-win-win situation – a win for you, a win for your technology supplier, and a win for your passengers.

QUESTION: Is the business case really strong enough for my company? How can I make money on this?
ANSWER: Passengers clearly prefer connected airlines. The question of whether the business case is strong enough or not has a lot to do with what your competitors are up to and what your own value proposition is.

Many airlines need to develop a new product approach to unlock the full revenue potential of on-board connectivity. No off-the-shelf product exists as yet. Your interest and involvement is called for.

QUESTION: Who will "own" the passenger going online on-board? Who should I partner with?
ANSWER: There is no ownership of the passenger: Rather, there is ownership of passenger information and the passenger experience. That means that information about your passengers will be shared and more information can potentially be gathered, unlocking further opportunities. You are in a strong position as you enjoy direct customer contact and can access detailed customer data from your frequent flyer programs.

In most cases you will need partners for both the technology and the actual applications and services. The best type of partner is one with whom you can form a long-term relationship – a stable, secure player who is willing to explore new avenues with you.

"In this multi-lever, low-margin business, optimization down to the last detail is important. This is where the connected aircraft comes into its own."

Aviation industry expert

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"Passengers understand that a stable service costs. In this region they have been prepared to pay."

Manager at an Asian airline

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"Connectivity will help us differentiate ourselves from our competitors."

Manager at a Latin American airline

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"Connectivity establishes the airline as innovative. Most passengers prefer to fly with an airline that offers Wi-Fi options."

Manager at a European airline

3. SPREAD YOUR WINGS

We believe that connectivity can open up new sources of revenue for airlines. This is similar to what duty free has done for airports. Twenty years ago, industry experts questioned the value of shopping at the airport. Today, many airports make between 20 and 40 percent of their revenue from non-aviation business. And for many passengers, picking up a bottle of booze or some fancy chocolates has become an almost obligatory stop on the journey from pat-down to gate.

What are the concrete possibilities for generating ancillary revenue through in-flight connectivity? We look at some examples below, from paying for Internet access and targeted shopping to rebooking or upgrading flights while in the air. But there are many other possible applications that will be developed over the coming years.

According to data from a recent Roland Berger project, involving interviews with airline managers, smart airlines can potentially earn an average of EUR 1-4 per passenger. Not just from selling Wi-Fi access but from targeted retail offers and real-time advertising and sponsorship. For example, airlines can leverage the large amount of data they have on passengers from the booking process and customer loyalty systems to personalize their in-flight retail offer to passengers. They could also potentially allow passengers to rebook cancelled flights or missed connections while still on board, improving the customer experience at the same time as reducing costs.

The precise amount of potential revenue depends on whether the flight is short-haul, in which case it would be around EUR 1.20 per passenger, or long-haul, in which case it would be around the EUR 3.60 mark. The lower revenue per passenger on short-haul flights would be balanced out by shorter flights and the larger number of passengers transported in total. These figures are our estimates for the short-term potential from 2016 to 2018.

Besides generating extra revenue, on-board connectivity – or the "connected aircraft" as it is known – is an important catalyst for airlines to further reduce their operating costs. Electronic flight bags can process real-time weather and traffic updates during the flight, allowing pilots to recalculate routing and speed. Real-time wind-data updates allow pilots to avoid turbulence or other potentially harmful weather and more accurately predict dangerous situations for passengers and crew. Airlines estimate that, taken together, these factors could reduce fuel costs by up to two percent.

Similarly, aircraft condition monitoring systems (ACMS) can transmit data on monitored systems, flight conditions and equipment in real-time during the flight. Telemetric data from the aircraft on engine performance, avionics, potable water, toilet status, fuel, and lubricant use can be monitored in real time to forecast maintenance events before they are needed. The goal here is to avoid costly down-time or in-flight diversions due to unexpected failures.

In-flight Internet also functions as a differentiator for airlines. Offering connectivity already represents a competitive advantage in airline selection. It benefits the airline brand, positioning the airline as an innovative player and boosting its attractiveness. This ties in with passenger perceptions. In-flight connectivity is one of those rare factors that appeal to all demographics and profiles: young and old, leisure and business flyers, passengers from all continents, those browsing the Internet for information about their destination and those more interested in posting selfies to social networks.
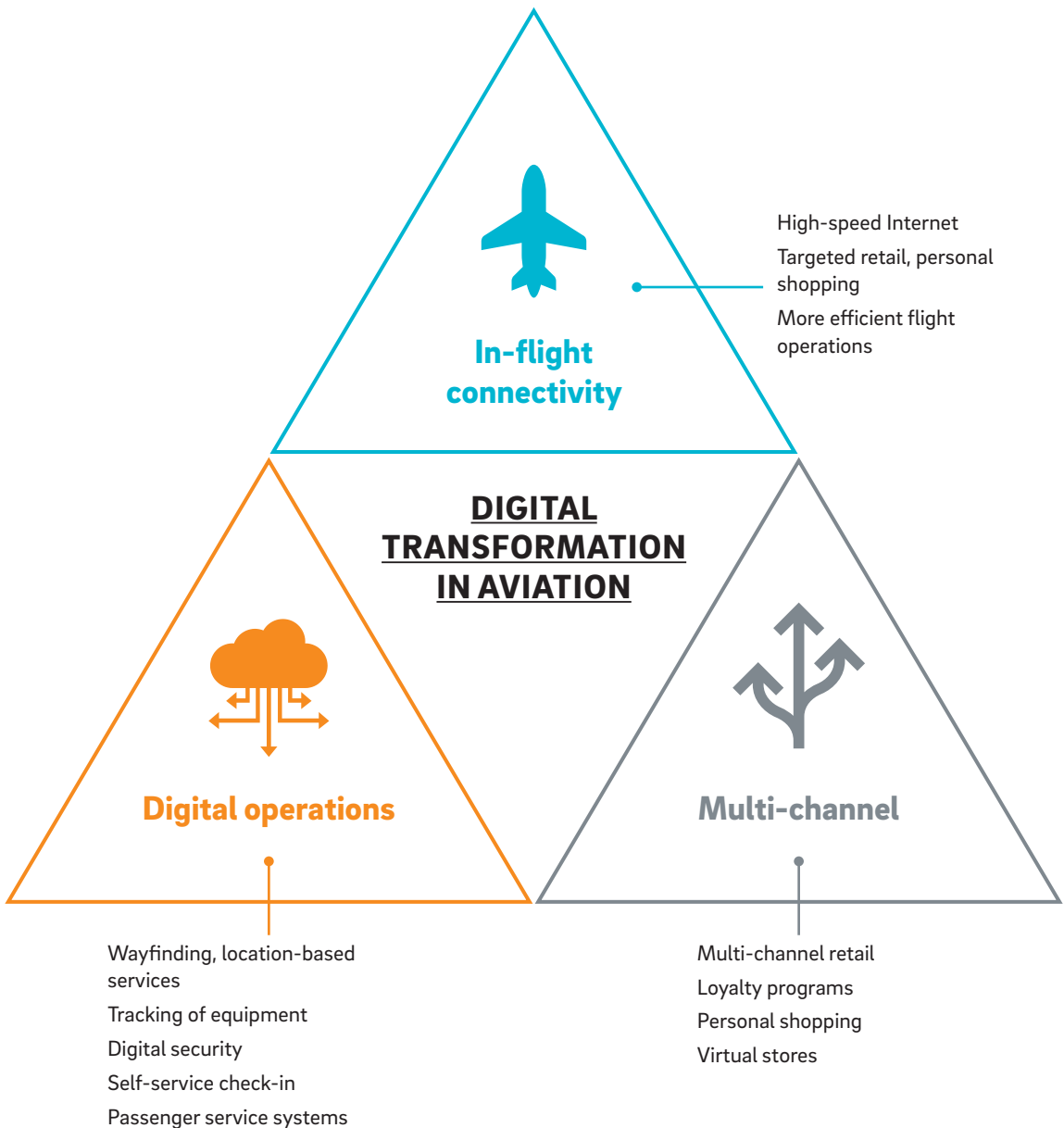
CONCLUSION

The digital transformation of the airline industry is already underway. On-board connectivity is part of that transformation – not the only part but a significant part nonetheless. We believe that in-flight connectivity represents a clear opportunity for airlines, providing they can identify the right partners and develop the right product concept. Now is the time to spread your wings and fly. ◆

D

THIS NEW DIGITAL TRANSFORMATION COVERS ALL AREAS OF AVIATION

Scope and examples of digital transformation.

In-flight connectivity

High-speed Internet

Targeted retail, personal shopping

More efficient flight operations

DIGITAL TRANSFORMATION IN AVIATION

Digital operations

Multi-channel

Wayfinding, location-based services

Tracking of equipment

Digital security

Self-service check-in

Passenger service systems

Multi-channel retail

Loyalty programs

Personal shopping

Virtual stores

Source: Roland Berger

ABOUT US

Roland Berger, founded in 1967, is the only leading global consultancy of German heritage and European origin. With 2,400 employees working from 34 countries, we have successful operations in all major international markets. Our 50 offices are located in the key global business hubs. The consultancy is an independent partnership owned exclusively by 220 Partners.

FURTHER READING

RISE TO THE CHALLENGE
The risks and opportunities of digitization for airports

In the airport business, digitization is considered synonymous with opportunity. Industry pundits are hailing the changes associated with digitization as the golden ticket to generating new revenue-earning possibilities at airports. Those changes, the pundits imply, are almost exclusively positive. We sound a note of warning. It's not that we don't believe that digitization will revolutionize many aspects of airports and that this could have a positive effect on the airport industry. Indeed, we touch briefly on some of the exciting opportunities for airports in this paper. But a whole swathe of new challenges have emerged and airport operators need to find a way to deal with these threats now if they are to avoid a sizeable dent in their operating margins.

AVIATION RADAR 2015
Summary of results

2015 was a good year for the aviation business. Fuel costs remained low, other costs were stable or even declining and passenger figures were rising, providing the best prerequisites for economic success. However, the airlines' earnings remain under pressure thanks to over-capacity, increased competition and price-sensitive customers. Although there is a strong interdependency between airports and airlines, the former have their own challenges to face and there is little correlation in development between the two. The airports, for example, have begun to reconfigure their business models and include new development options in their strategies.

Links & likes

WE WELCOME YOUR QUESTIONS, COMMENTS AND SUGGESTIONS

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