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The future of air travel

Airlines and passengers alike are flying into a world of *flygskam* and flying taxis.

In this episode of the *McKinsey Podcast*, Simon London speaks with McKinsey senior partner Alex Dichter and partner Robin Riedel about the economics of the airline industry.

Simon London: Hello, and welcome to this episode of the *McKinsey Podcast*, with me, Simon London. In this first episode of 2020, we are going to be talking about the present, and future, of air travel. On the one hand, these are exciting times for aviation. The airline industry is enjoying an all-too-rare period of healthy profits, and there is very real potential in new modes of air travel, ranging from unmanned air taxis to next-generation supersonic planes.

And yet there is increasing awareness, among passengers and policy makers, that flying is a carbon-intensive mode of transportation. The concept of *flygskam*, roughly translated from the Swedish as "flight shame," is a topic of conversation in the media and in boardrooms alike.

To discuss all this and more, I caught up with a couple of commercial pilots turned McKinsey partners. Alex Dichter is American, now based in London; Robin Riedel is German, now based in San Francisco. They both work extensively with airlines and, like many of us, fly extensively for work.

Simon London: Alex and Robin, thank you for being here and welcome to the podcast.

Robin Riedel: Glad to be here.

Alex Dichter: Great to be here.

Simon London: Let's start with a little bit of industry economics. This industry is famous—has been famous over the years—for destroying value for investors. But the last few years have been better. Alex, just tell us what's changed?

Alex Dichter: Sure. We are indeed about to finish the fifth year of consecutive profitability in the airline industry, depending on how you measure it. The industry's made a small economic profit in each of the last five years. Certainly, no matter how you

measure it, it's been the most profitable five-year period in 80 years of industry history.

Some of that, to be clear, is good luck. We've had relatively robust GDP growth across the world, and certainly in the US, over that period. Fuel prices have been lower than average. But I do think that there are some things that the airline industry has figured out that are working better. Chief among them would be what the industry refers to as ancillary revenues.

To illustrate the point, in a typical year over the last five years, the industry as a whole has made an economic profit of, let's say, $35 billion. In any of those same years, the global sales of ancillary revenue—[for] seat assignments, bag fees, credit-card fees—has been north of $50 billion. In other words, you could say that all of the industry profit is coming from ancillaries. Of course, it's a bit more complicated than that, but it is a big structural change and it's really helping the industry.

Simon London: It's interesting. It's like the biggest innovation in the airline industry over the last ten years or so actually has been revenue management, or pricing innovation, as opposed to fancy new aircraft.

Alex Dichter: I don't want to discount the impact of fancy new aircraft. Certainly, as a pilot, those are very important to me. But, yes, it's a big structural change and, by the way, it's one that the airline industry didn't invent. It used to be that we all paid for our checking accounts. Today, the checking account tends to be free and we pay a little bit extra for physical checks, a little bit extra for this, a little bit extra for that. It's true in telecoms. It's true in many other industries. What the industry is doing is responding to human behavior.

People are less responsive to changes in these fees than they are to changes in the price of the ticket. When the price of the ticket goes up by a dollar or two, airlines see an immediate effect in their demand. When we change the seat-assignment fee from $6 to $7 or $7 to $8, people may buy fewer seat assignments but they don't

buy fewer tickets. From an industry-structure standpoint, that's probably a healthier way of building revenue rather than simply bundling everything into the ticket price.

Robin Riedel: I think what Alex said is absolutely right, and then I would add that, operationally, we've seen massive progress. They're using aircraft a lot more than they have in the past and spreading the cost of those aircraft. At the same [time], crews are much more productive than they have been in the past. [For] all kinds of different cost items, we've found ways, over the last decade or so, to significantly reduce [them].

Simon London: This is where I'm going to put my traveler hat on. Is there a sense then, Robin, that this little profitable spell for the industry has been somewhat … passengers are paying for it? It feels like I do have to pay for a lot of things I never used to have to pay for. Plus, I have crowded airports, crowded planes. I think the traveler experience doesn't feel like a great one at the moment.

Robin Riedel: It's an interesting observation. I do think if you look at the data, it would tell a bit of a different story, a more nuanced story. I think there's lots of positives that are better today than they were before. I think, on the one hand, you have more choice.

You say things are more crowded. You may pay for more things, but it's actually your choice to do so. If you want the fantastic experience, you can pay for that and actually get it. You can get lie-flat seats, which 20 years ago you couldn't. You can get great airport lounges. You can get fast track. You can even get private terminals in certain places.

All of that is available. Now, overall, costs have come down. If you could look at the real cost of air travel over the years, this is one of the only industries in the world where prices continuously go down and down and down. Today, access to air travel is a multiple of what we had even ten or 20 years ago, simply because airlines have figured

out how to lower costs over time, which provides access to people.

Now, on top of that, beyond the choice and beyond some of the innovation we're seeing, there's a couple of simple things that have just gotten better. One is on-time performance. We're so much better today in understanding weather patterns, understanding equipment, having much more reliable equipment. While it might sometimes feel like you're stuck in the airport longer than in the past, the facts would actually show a different story.

Alex Dichter: Robin pointed out the benefits if you're interested in a premium experience. But, quite frankly, even in economy class, the vast majority of the global airline fleet has inflight entertainment, often with hundreds of movies and TV shows to choose from. There's Wi-Fi on board, sometimes for a fee, sometimes not. There are extra-legroom seats that you can pay for, at reasonable prices that a lot of people choose to pay for and can afford.

I think a lot of people who refer to the golden age of air travel don't remember what flying was like in the '60s and '70s. I do. I did a lot of it. Fights were long, deadly boring. There was smoking on airplanes, which a lot of people don't like. The connections were very difficult. You always had to leave the terminal. Lots of waiting in lines. You couldn't do anything digitally. It wasn't quite the experience that people remember it to be. I think the one thing that is clearly more difficult today is that planes are full.

The average load factor—the percentage of seats that had people in them—in the 1970s was around 60 percent, which meant that you were almost certainly, mathematically, going to get an empty seat next to you. Today, as anyone knows, getting an empty seat next to you on a typical flight is a real rarity.

Simon London: Yeah, and airports are more crowded as well, though, aren't they? There is a fact, isn't there, around the number of airports,

globally, which are operating at or beyond capacity—and it's high, right?

Robin Riedel: They're more crowded. Now, the way it really manifests itself is security. If you go back to the '60s or '70s, there was no security, and so it was a much more open space. Today, once you're through security, the airport experience is generally pretty good. You have restaurants. You have retail shopping. You have lots of seating space. You have light terminals with lots of window space. Security tends to be the number-one pain point for passengers going through the experience.

Simon London: Yes, and I guess we cannot blame that on the airlines. That's not something the airlines chose to put in place.

Alex Dichter: But you're quite right about the crowding point. If you go to multiple airline terminals, particularly in hub markets today, during peak hours you'll find that it can be difficult to move around. In an industry that grows at, depending on the market, 3 to 6 percent per year, it's very clear that much of that infrastructure needs to be expanded and/or replaced and needs to be expanded or replaced quite quickly.

Simon London: Yeah. Just go back to legroom, which is always a topic of much debate.

Alex Dichter: Yep.

Simon London: It feels to me like legroom is probably less than it used to be. Again, am I just looking at the past through rose-tinted spectacles?

Alex Dichter: Here are the facts. Let's go back to the '70s. I think in the '70s, the average pitch—this is a term that the industry uses for the number of inches or centimeters between one point on a seat and the exact same point on the seat behind it or in front of it—was about 34 inches. Today, if we looked at most network carriers, traditional airlines, it's probably in the neighborhood of 31 inches. So that's three inches fewer, which sounds like a lot. However, the seats are slimmer. A typical seat

today is at least two inches slimmer than it was in the 1970s, so the amount of space available for your legs is not dramatically different.

Simon London: So we might have lost an inch over a few decades.

Alex Dichter: We might have lost an inch. I think we certainly lost some recline. I think fuller airplanes mean that we're a little less socially comfortable reclining our seats, and that's certainly had an impact. Let's be clear: this [legroom] is also one of those things that people say they want, and yet, to the industry's chagrin, there doesn't seem to be an enormous amount of evidence that people are willing to pay for it or shift their preferences because of it.

Simon London: So as consumers, we do not vote with our feet or our knees.

Alex Dichter: Unfortunately, that is true. I think the happy equilibrium we're coming to is [that] many airlines are offering extra-legroom seats. There are different names for these. There's, of course, premium economy, which is sold as a separate class. In many cases, for anywhere from $20 to $100, you can buy an extra-legroom seat, which has quite a bit of additional legroom. So those who care can buy, and those who care less don't.

Simon London: Yeah. So the golden age of air travel [was] maybe not quite as true as we'd like to remember. Let's go back to this little golden period we've [now] got of industry economics, though. Will it continue?

Alex Dichter: The dynamics that have always led to unprofitability in this industry are fundamentally still there. This is still an industry that orders lots of airplanes when it's doing well. Those airplanes show up two to three years later, typically all at the same time. And that drives quite a bit of cyclicality.

Simon London: The cyclicality of capacity planning and the fact that every airline seems to order in unison, and then you get excess capacity, is just a fundamental problem.

Alex Dichter: Sure. Fundamental problem. The fact [is] that capacity is perishable—meaning when a seat leaves the gate, it's worth nothing. The marginal cost to put one more passenger on the airplane is very low, and that leads to a very strong incentive, and a rational one, to price below full cost when times are tough. In an industry where prices are relatively transparent, others respond, and you end up in a bit of a spiral.

Simon London: Yeah. Yeah.

Alex Dichter: I don't think any of that has fundamentally changed.

Robin Riedel: I would maybe add that there are a few new storm clouds on the horizon here for the industry. One of the bigger ones has got to be the question of sustainability. I think we're hearing lots of public outcry about the amount of carbon that aviation puts in the air. If you look at other emissions, it's even higher than that. There's a real question about whether demand is going to change because of environmental concerns.

Simon London: Yes. There's the word *flygskam*; I'm probably butchering that. We'll get letters from Sweden! This came up just in the last year or so and seems to have entered popular culture. Is this actually a real topic of conversation—again, at the capacity-planning level? When people are looking at the demand curve and thinking about orders in airlines, are they taking this into account?

Robin Riedel: They're starting to. I think this is a relatively new trend. We're seeing this over the last six months or so, but our surveys have shown that about one-third of the passengers are seriously considering flying less as a result of environmental concerns, which is something we haven't seen before at this number.

We do see [this] in certain markets. In Scandinavia, we see pockets of demand falling off, especially domestic travel or short-term travel, as a result of this. We're seeing lots and lots of airlines starting to come out with very bold messages around what they want to do. Right now, a lot of this is focused

on how do we increase fuel efficiency with our flying? How do we think about alternative fuels—certifying them and getting them on board? How do we think about offsets?

But to be honest, there's a lot more to be done, and there's a real challenge for the industry coming up. Because of the density of power that sits in fuel, it's very hard to go to other sources. Going to electric is incredibly hard for longer flights, if not physically impossible at this point.

Simon London: Just because of the density of batteries per unit of energy that they contain?

Robin Riedel: That's exactly right. The problem is, other industries can go with alternatives. We're going to look at electric cars and we're going to see that ramp up. Even though aviation might be 2 percent, 2.5 percent, of carbon emissions today, aviation is rapidly growing compared to other modes and other polluters and doesn't have as many alternatives. As the other modes put alternatives in, we will see the [carbon-emissions] number of aviation come up quite a bit. It's not crazy to say ten years from now, aviation could be at 10 percent.

Simon London: It's currently at this interesting data point. Currently, around 2 percent, 2.5 percent, of global carbon emissions are [from] aviation, and probably, on trends, that will rise. How far it will rise, we don't know, but it could rise significantly.

Robin Riedel: That's right.

Simon London: Presumably, the industry is heavily incented to get more fuel efficient because jet fuel is a significant portion of costs. What's the record of the industry so far? Beyond the cleaner-fuel alternatives or biofuels, what's the industry doing to try and reduce it?

Alex Dichter: It's something that's on everyone's mind. I think even if you weren't concerned about carbon, to your point, fuel is a large expense item, and everyone's looking to use less of it. Certainly,

for some airlines, that means investing in new aircraft types that are significantly more fuel efficient. Some of the new-generation aircraft are as much as 20 percent more efficient on a per-passenger basis.

Let's be clear: those airplanes are expensive. If you look at most cases, it's a clear business case, but it's close—meaning you save a lot on operating costs, but you pay back quite a bit of that in capital costs for the privilege of having new aircraft. For some, that makes sense. For others, it makes less sense.

Robin Riedel: Maybe to add a few things to that, the record of the industry at reducing or increasing fuel efficiency has actually been quite good. On average, we're seeing about a percent, 1.5 percent, of reduction per year. Every year.

The airlines are quite committed to that, to Alex's point, because it saves them money. I think one of the big players that has the opportunity to do more is actually air-traffic control here, and this is in many cases government led. [We need] better ways to utilize the airspace, finding better ways to hand off between—for example, in Europe—between country-based air-traffic control and allowing aircraft to take more direct flights, staying at an altitude where they're more fuel efficient for longer. That could make a big difference. I think there's a lot of opportunity left to really see some improvement on the fuel efficiency.

Simon London: Yeah. To step back from that, even though consumers say they are concerned about the environmental impact of flying, we still expect the industry to be growing at GDP-plus for the next while. If it bends the demand curve, it's going to be at the margin.

Alex Dichter: I think we do need to consider a scenario in which that changes. I think the fact is that a reasonably large portion of air travel today is discretionary. In Europe—I live in the UK—for a lot of people, the choice to go to Amsterdam or Spain for the weekend is an alternative to going to a football game and going to the pub, at not very different costs. It's a way of spending your time.

One of the airline CEOs in Europe says that his biggest competitor is the sofa, meaning that he's really trying to get people to get out of their homes and decide to travel. And that creates demand. I think the notion of *flygskam* and, again, I'm sure I'm pronouncing it incorrectly …

Simon London: I think you did better than I did!

Alex Dichter: … is precisely to challenge people on that type of travel. I think if that mind-set becomes widespread, we could see a big change to demand. Businesses, too, while we as businesspeople think that much of our travel is essential, I think if we really looked at it with a sharp eye, we'd realize much of it could be replaced by videoconferencing and phone calls. I think that there is the possibility that we'll see large changes in mind-sets toward travel, and that's something that the industry needs to watch very closely.

Robin Riedel: Just to build on that, I think the same is true for cargo. If you look at air cargo today, a lot of it is perishable goods. Anywhere in the world you can get nonseasonal fruit and vegetables. You can get salmon from Chile and you can get flowers. You can get perishable goods from all over the world at any time. I think consumers will over time smarten up to that and say …

Simon London: … "what is the carbon footprint of my strawberries?"

Robin Riedel: Yeah. There you go.

Simon London: Alex, you mentioned a little earlier that the current-generation and next-generation aircraft are more fuel efficient. Without getting too nerdy, but I'm interested, how is that being achieved?

Alex Dichter: In the simplest form, much of that benefit is coming through an increase in what engine manufacturers refer to as the bypass ratio. That's, effectively, the ratio of thrust that is created by the fan. That's the big disc out in front of the engine that you see spinning. It's effectively a propeller, versus the core of the engine.

The higher the bypass ratio, the more efficient the engine is, up to a point. It's a very simple explanation of a very complicated topic. I think the issue is we're up against a threshold where dramatic increases in bypass ratios are not likely, for two reasons. One is at some point the fan becomes so big that you can't manage it geometrically. The second point is that the internal temperature of the engine goes up with higher bypass ratios. At some point, we run into the limits of the ability for materials to sustain those temperatures.

Simon London: So we hit a plateau of what you can get out of the technology.

Alex Dichter: At some point, physics wins. I think that the achievements of the engine manufacturers over the last 20 or 30 years have been remarkable. I think engineers do wonderful things and we'll continue to see improvements. But I think the idea that we'll at some point see a kerosene-driven, high-bypass-ratio turbofan engine that burns 50 percent less fuel than we see today, using the same basic concepts, strikes most of us as unlikely.

Robin Riedel: Then to build on that, I think the changes we would see in that next-generation aircraft will be new airframe designs. I think on the airframe side, we're getting more aerodynamic wings. We're building more aerodynamic fuselages overall, and we're building lighter materials. There are a lot of carbon aircraft parts out there now.

Simon London: Yes. There are composites and things being built which are lighter than aluminum and so on.

Robin Riedel: That's right, but we're fundamentally still building the same kind of tube and wing designs that we've been building for the last 80, 90 years. The question is [that] to get to the next level of efficiency afterward, we'll have to attack the design of the actual aircraft.

There are designs out there like blended wing bodies, which have significantly better lift

performance and lower drag, that would achieve the next step change, but it's not as easy as just taking an engine off, like we do today, and replacing it. As an industry where a new aircraft design will easily cost you more than $10 billion, something of that scale will probably cost you $30 billion, $40 billion. We haven't gotten to the point yet to really invest in these new designs.

Simon London: Presumably, as an aircraft manufacturer, the big hairy bet that you have to make is when to take those kinds of more futuristic designs—next-generation or beyond-next-generation platforms—into production.

Alex Dichter: I think there are multiple considerations. I think one is you don't want to kill the existing platform, which still has plenty of growth left in it. You're trying to pay down that investment, which might be only five or ten years old. The second is you want to make those investments at points in which propulsion technology is ready for a step change.

Last but not least, there is something to be said for managing the number of unknown unknowns in a design. The good news about reusing existing design features is that they're very well tested. We understand them. We understand how to make them safe or safer. We understand how to build them. The more unknowns there are, the more uncertainty you have in the development process that leads to delays. It leads to manufacturing problems. Eventually, the industry tends to get there, but it can be a bumpy road.

Robin Riedel: Notwithstanding what we said, there are some very good ideas on the horizon that are actually coming to fruition in the smaller-aircraft space. We're looking at electric propulsion. The floatplane companies in Vancouver have committed to going fully electric on their smaller aircraft.

There we see a bunch of innovations coming out that are electric propulsion, battery driven. On the next horizon of range, you have a bunch of new designs that have distributive propulsion. Instead

of having one or two big engines on the aircraft, you have dozens of small, little propellers across the wing or across the fuselage, which have all kinds of aerodynamic benefits. While we won't see that any time soon on the large airliners that we travel around [on] most of the time, we will see this on the smaller, regional aircraft.

Simon London: So the innovation tends to be on the shorter haul, basically?

Alex Dichter: I wouldn't say it has been a pattern that innovation occurs on the shorter haul. I think the point is that when it comes to electric aircraft, the ability to do something that's economically useful on short-haul aircraft today is in sight in a way that it is not for long-range aircraft. We're not far away from being able to pack enough energy into a battery to be able to carry ten passengers 20 or 30 kilometers. We're quite some way away from being able to carry 300 passengers 10,000 kilometers.

Simon London: Just talk a little bit about the air-taxi concept, which sounds incredibly futuristic. What do you think? Is it realistic?

Robin Riedel: It's a space I'm tremendously excited about. Right now, we track more than 150 different manufacturers working on prototypes and business models around these vehicles.

Simon London: One hundred and fifty?

Robin Riedel: More than 150 just from the manufacturing-the-vehicle side. If you think of the whole ecosystem, it's many, many more than that. You will have to recharge these vehicles. You will need infrastructure to land them. You need air-traffic control when you think about the lower airspace and lots of vehicles; it's something that today doesn't exist.

All of that is being spun up right now. There are dozens of companies that have working prototypes that fly with and without passengers, with and without pilots, today and are proving that technology-wise, we're actually there.

Now, at the same [time], there are a lot of unlocks that need to happen to get there. Air-traffic control is one I mentioned. The thought that we will have dozens of these [air taxis] zipping through a city—it's a problem that, technically maybe, we're close to solving or have solved.

Simon London: Yes, it's both exciting and scary.

Robin Riedel: It is both exciting and scary. Now, public perception is another issue. I think in the Western world, our surveys suggest that people are not quite ready to get into an autonomous plastic bowl with rotors on it and fly around a city, or there's some skepticism around it. Now, in some of the emerging markets, there's less of a concern there.

Simon London: You guys are both pilots. Will these things be pilotless or not? Because, presumably, the weight of the pilot, the economics of the pilot, fundamentally changes the game.

Robin Riedel: Let me give you a couple of the data points here. By adding a pilot, we're about doubling the cost of flying on these vehicles. That's because you have to pay for the pilot, for one, which isn't necessarily cheap, especially if you only share the cost over a couple of passengers, versus a couple of hundred on big aircraft. Secondly, you're designing the aircraft for the pilot to be in there. If you add an extra seat, that's extra weight, so you're roughly doubling the cost of the trip.

I think, secondly, it's an interesting question of where these pilots will come from and how we incentivize them. Our forecasts show that by 2027, 2030, if this industry takes off, we'll need about 50,000 pilots just for this urban air-mobility space. The value proposition for them is an interesting one because you're telling them, "Listen. We want you to fly these," but at the same time, as an industry, our number-one priority is to …

Simon London: … to get rid of you!

Robin Riedel: To get rid of you. To automate this, so that we can bring down the cost. If you think about

the NPV [net present value] of a pilot's career, you invest about $100,000 up front to get your pilot's license. You spend two years of your life doing that. You have to recoup that afterward. If you only think about a five- or ten-year career until you get automated away, it's a hard pitch to make. It's a very interesting question for the industry how to resolve it.

Alex Dichter: The other thing I'd say is that we are very close to being able to master the technology that's required for 100 percent–safe autonomous flight. Ninety-nine-point-something percent of the time, everything goes flawlessly.

That said, you see in your day-to-day life that technology fails, whether that's having to reboot your computer or your phone. This happens on airplanes today—sometimes you need to reboot a system and have human intervention. Not surprisingly, the tolerance for technology failures in unmanned flight will be zero. The question in a lot of people's minds is, "All right. If we're 99-point-something percent of the way there, how far are we from 100?" That could be very close, and it could be very, very far.

Simon London: This is the same discussion that happens with autonomous vehicles. To what standard do we hold the systems? Do we hold them to the standard of perfection, or do we hold them to a human standard, which is a long way from even 99.99 percent?

Robin Riedel: You raise an interesting point there because the human standard is also not 100 percent. In a lot of cases, you would argue the human introduces a certain amount of risk as well because there's human failure and human error. I think a lot of it is a public-perception issue, and how do we deal with the fact that we're expecting 100 percent safety from aviation but yet we're totally fine getting in a car and taking a significant risk on our way to the airport in the car.

Simon London: It's cultural, societal, but also regulatory, and regulators will respond

to politicians, who respond to societies. What about supersonic? Is there a future? Is it going to come back?

Alex Dichter: Many people my age had a chance to fly on Concorde when it was operating, and it was a wonderful experience. There are a couple of companies that have very credible paths, from a technology standpoint, to reintroduce supersonic aircraft—in some cases, to the business and corporate market.

That said, I do think that there are some real challenges. First and foremost, [supersonic aircraft] will not be more fuel efficient. I think that in a world where we become very focused on carbon footprints, at an individual as well as a collective level, that may impede the success of these models.

I think, second, there is a time-channel problem with supersonic flight that I think many people underestimate. What I mean by that is, nobody wants to arrive at 2:00 in the morning and nobody wants to leave at 2:00 in the morning. When you look at the rational departure and arrival time slots in many city pairs, supersonic does wonderful things for you in some city pairs and does nothing for you in others.

Concorde, for instance, was quite popular between London or Paris and New York, and it was less popular in the other direction because it left in the morning and arrived in the early evening, so you spent a day on an airplane. Whereas the alternative would be to spend a full day in New York, go to sleep in a first-class seat or a business-class seat—because if you were on Concorde, that's probably your alternative—wake up in Europe, and have a productive day on the other end. That said, I suspect we will see some activity in this space at small scale.

Simon London: Let's just finish with some tips. You are both pilots and frequent travelers. I'm sure you get asked this at dinner parties, so here's the dinner-party question: "I fly. What should I do? What should I not do?"

Alex Dichter: My simple answer is, unless you really have to, don't eat on planes. Nothing against the food. It's fine. But in many cases, the flight is relatively short. If you look at the East Coast of the US to Europe, you have, at best, six and a half hours in the air. You have a big time-zone change ahead of you. Getting even a few hours' sleep is really helpful, and an hour and a half worth of dinner, whether you're in economy or business [class], takes away a significant portion of your sleeping time. Not to mention the fact that the airplane is a pressurized environment. Without getting into overly biotechnical details, your body doesn't do a particularly good job of digesting food at altitude.

Simon London: Yeah. So rest, basically. Put your head down. Get some rest. Don't eat. Robin, any tips?

Robin Riedel: Well, I still eat on airplanes, so I don't quite agree [with Alex] on that one. I think getting smart on a stress-free way through the airport and through the environment is really what I spend my time thinking about, and that's the tip I give people. Think about which security checkpoint you use. Is there a way for you to get faster through that by registering for a program or by being a frequent flyer? [Also,] understanding where the gate layout is, what are the right places to refresh or [where] the washrooms [are] in the area, et cetera.

Simon London: So a little bit of preplanning of the airport experience.

Robin Riedel: A little bit of preplanning of the airport experience. Absolutely. I think on the aircraft itself, I would argue get a window seat if you can, because you can lean against the window. People always argue that the person who's in the aisle seat has all the power because they can get up whenever they want. Well, the reality is, if you're in the window seat, you can also get up whenever you want, and you can actually make the other people get up at the same time. That whole aisle argument for me doesn't count. For me, it's a window seat.

Alex Dichter: One other tip that might surprise you is pack lightly, as that not only simplifies your

life and makes dragging bags through the airport simpler but also reduces your carbon footprint. If you choose not to fly, at least in the short term that seat will probably be filled by someone else and, certainly, the plane will go. Every kilogram that you remove from your personal luggage reduces the fuel burn for the aircraft. I feel good about that. It also makes my life simpler.

Robin Riedel: One other [tip] I would add is bring a pillow. Even on shorter flights, being able to rest your head on something other than just the headrest is nice. I always carry a small pillow with me. I carry a pair of somewhat nicer eyeshades than you are given for free. Because that just makes a big difference to me—to be able to shut out the light and get a little bit of quiet time.

Alex Dichter: Another key one for me is knowing when not to sleep. The big challenge of long-haul travel, of course, is managing jet lag. That is as much a question of learning how to sleep as it is [of] knowing when not to sleep. A perfect example would be [that] a typical flight from the East Coast of the United States to Asia would leave in the middle of the day—let's say noon—and arrive in Asia late in the afternoon, which, by the way, would be early in the morning on your body time.

If I look around the airplane, in most cases I would see people asleep for the last five hours of that flight. I know from experience that those people will end up tossing and turning in their hotel bed that night, unable to go to sleep again. That sets a pattern, throughout the subsequent days, of being groggy in the day, probably having to resort to taking a nap, and not being able to sleep at night. Keeping yourself awake so that you can shock yourself into the next time zone is an important discipline in managing jet lag.

Be friendly to airport and airline employees. There are a lot of things that go wrong in the airline industry, and the vast majority of them are not the fault of the flight attendant or gate agent that you are speaking to. Taking the time to smile and acknowledge that it's not their fault, and [for them to] have a little human contact, makes their day

better, makes your day better, and, again, creates that positive loop that we were talking about. I had a flight attendant come up to me not long ago to thank me for taking my headsets off of my head when she came to ask me a question. You would think that would be a common courtesy; it's something I ask my kids to do but, apparently, that's not something that's often done. Those little things make a difference.

Simon London: We are out of time for today. Robin, Alex, thank you so much for joining and that was fascinating.

Alex Dichter: Great.

Robin Riedel: Thank you for the time.

Alex Dichter: We'll see you all in an airport someplace.

Simon London: Yeah. Right. And, as always, thanks to you, our listeners, for tuning in to this episode of the *McKinsey Podcast.* Please do jet over to McKinsey.com to find more research on aviation, transportation, sustainability, and more. Alternatively, download the excellent McKinsey Insights app, which is available for Apple and Android devices.

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