Airbus Latin America
and the Caribbean

Market Survey

Third Edition
August 2017

AIRBUS

AIRBUS S.A.S. 31707 Blagnac, Cedex, France

August, 2017.

Concept design by Airbus Multi Media Support, 20171254.

Photos by Airbus.

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CONTENT

FOREWORD

Welcome to the third edition of the Airbus Latin America and Caribbean Market Survey.

While in previous editions we looked back in time over the past 12 months, as we are beginning to see the regional economies start to recover, in this edition we decided to take a more forward-looking approach asking how the market will evolve over the next year. We asked aviation executives throughout the region to provide feedback on how they see aircraft requirements evolving, what criteria they favor for their fleet decisions and how they perceive Airbus overall.

I sincerely appreciate the time and effort taken by those who contributed to the survey. It certainly helps us to better understand the region, the challenges airlines face and also the opportunities that can arise.

I also hope you find this survey informative. As more than half of the respondents were either top or senior management, it certainly gives a clear indication of what the key decision makers in the region are thinking.

Yours sincerely,

Rafael Alonso
President,
Airbus Latin America and the Caribbean

KEY FINDINGS

INDUSTRY TRENDS

A positive outlook for the next 12 months in terms of traffic and load factor has returned and - significantly - not at the expense of yield. With key economies such as Brazil and Argentina beginning to recover, 88% of respondents see the regional economic recovery as a driver for growth.

The most important long-term network development opportunity in Latin America has shifted from intra-regional connections in 2015 to the opening of new long-haul routes to North America/Europe - an interesting development considering the continuing opportunities that exist regionally.

Consistent with the worldwide trend, there is a clear regional propensity to increase aircraft size, a single solution which allows airlines to increase seating capacity, reduce unit costs and address airport and airspace capacity constraints.

One very clear trend has been the emergence of the second wave of Low Cost Carriers (LCCs) as the model expands outside the key Brazilian and Mexican markets. Reflecting this trend, thirty-five percent of respondents were from LCCs, up from 16% in 2015.

FLEET DECISIONS

As with the previous surveys, fuel burn is still leading the fleet decision process. However, its importance has reduced slightly compared to 2015 as the combination of lower fuel prices and the introduction of new-technology engines lower its proportion of an airline's overall costs.

When evaluating a fleet scenario, there has been a significant change in the most relevant calculation as airlines consider unit cost more than overall profit. This again reflects the emergence of more LCCs for which unit cost is the paramount factor driving their business model.

Airlines in Latin America and the Caribbean continue to have a very high preference to phase out their aircraft after the honeymoon period and before the effects of ageing begin to show, a fact that is reflected by the young average aircraft age in the region.

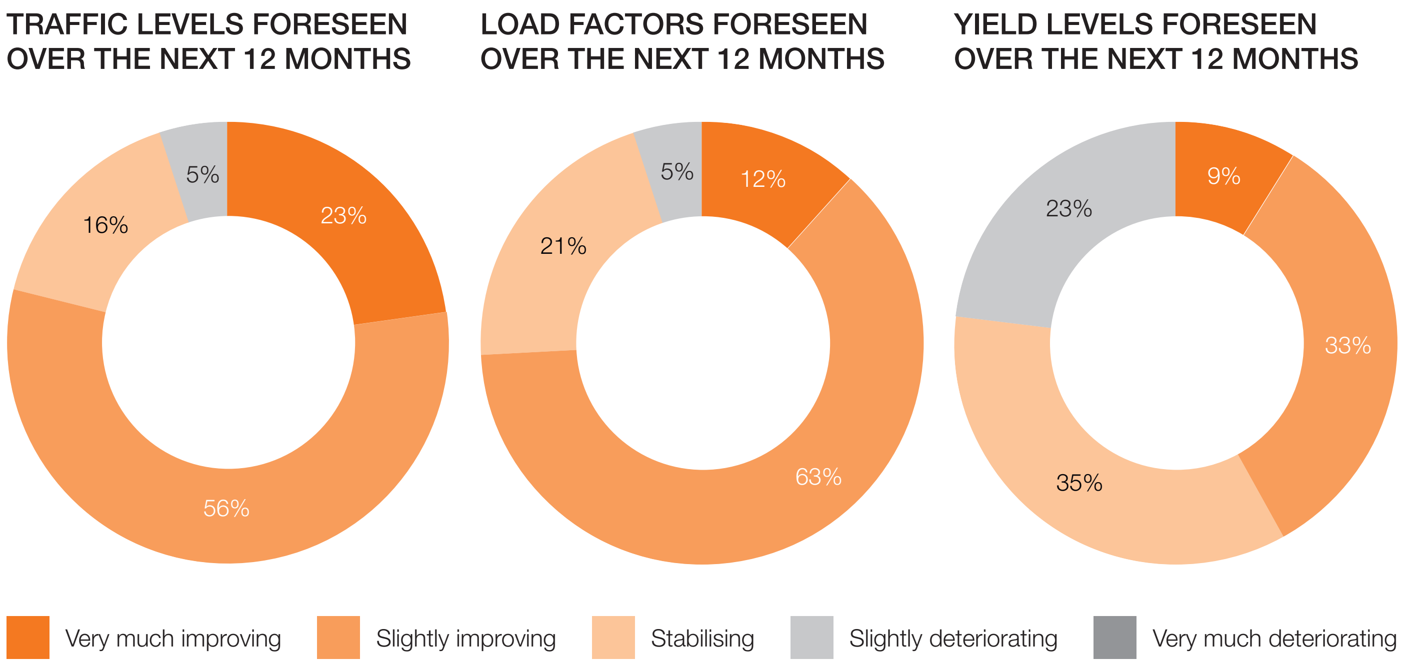
PERCEPTION OF AIRBUS

Airbus continues to enjoy high satisfaction rates on key criteria in Latin America and the Caribbean.

Airbus maintains its highest scores for being a highly innovative aircraft manufacturer that offers the most integrated product range thanks to fly-by-wire technology and the commonality that it provides across the whole Airbus family.

Considering the significant single-aisle market share advantage that the A320 Family holds in the region, it comes as no surprise that Airbus continues to be seen as the short-range leader.

INDUSTRY TRENDS



The positive sentiment that was seen in the 2013 Market Survey has returned following the slowdown that was noticed in 2015, clearly driven by the beginning of the regional economic recovery.

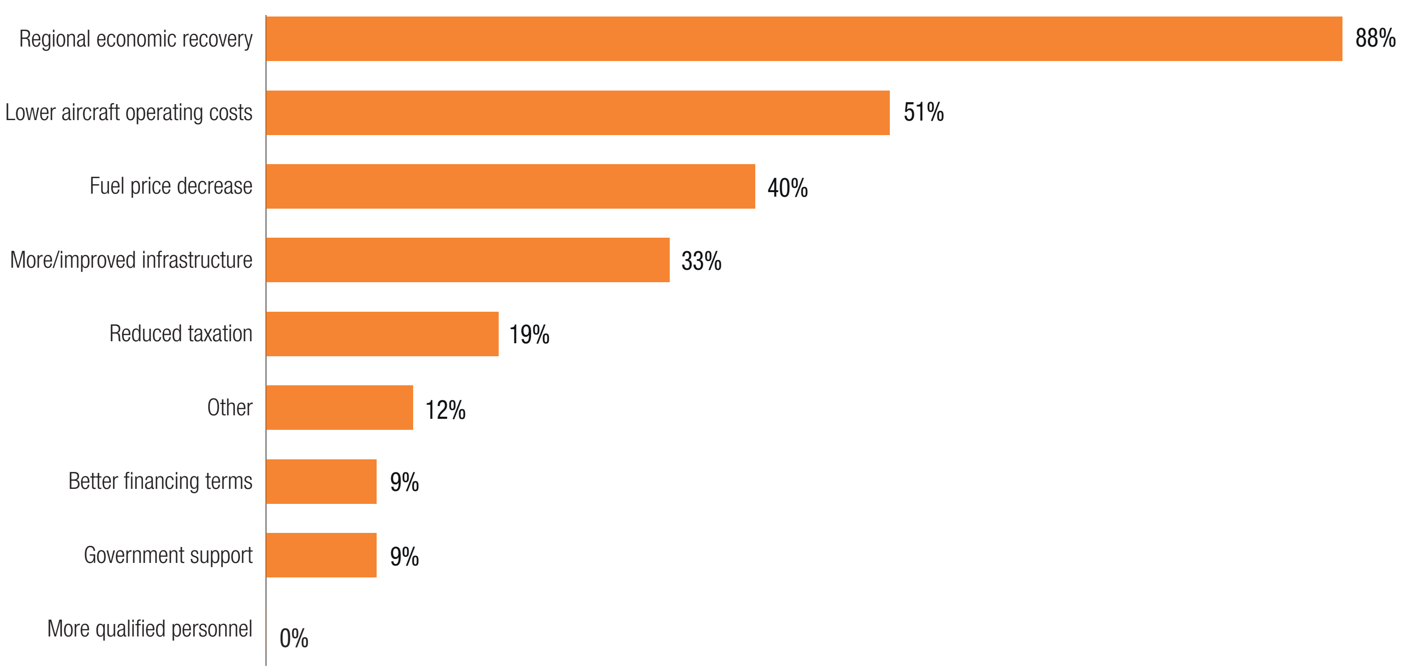
An improvement in traffic over the next 12 months is foreseen by 79% of the respondents and, significantly, only 5% foresee a slight deterioration.

Load factors are expected to hold up with 75% of respondents foreseeing an improvement over the next 12 months and only 5% foreseeing a deterioration. Interestingly, this improving outlook is not foreseen to be at the expense of yields, as more than three-quarters of respondents see yields either stabilising or recovering.

The **majority** of respondents foresee **traffic, load factor** and **yield improvements** over the next year.

With the regional recovery beginning to show, 88% of respondents naturally see this as a driver of growth. This compares favourably to two years ago when 65% of respondents saw the economic slowdown negatively affecting growth.

MOST IMPORTANT ELEMENTS TO ENCOURAGE GROWTH



While the overall economy is clearly the leading driver for growth, more than half of respondents see lower aircraft operating costs and 40% see lower fuel prices as key drivers. Lowering aircraft operating costs whether via fuel burn or maintenance costs (the two main cost drivers) will allow airlines to reduce fares and stimulate growth. However, the relatively low current fuel price means that any further fall will be marginal, having a limited effect on the ability to stimulate the market. Instead the introduction of newer, more fuel efficient aircraft will have a more influential impact.

While a third of respondents see the need for more or improved infrastructure as a means to encourage growth, when asked specifically what are the most important infrastructure constraints in the region, there have been some significant changes over the years.

Economic recovery, lower aircraft operating costs, improved infrastructure Key drivers for growth in the region.

Airport capacity is still the predominant constraint (88% of responses), a consistent trend over the years. This is one of the drivers behind the trend to upsize aircraft size, which will be discussed later in the report. However, there have been significant increases in constraints in a number of other areas:

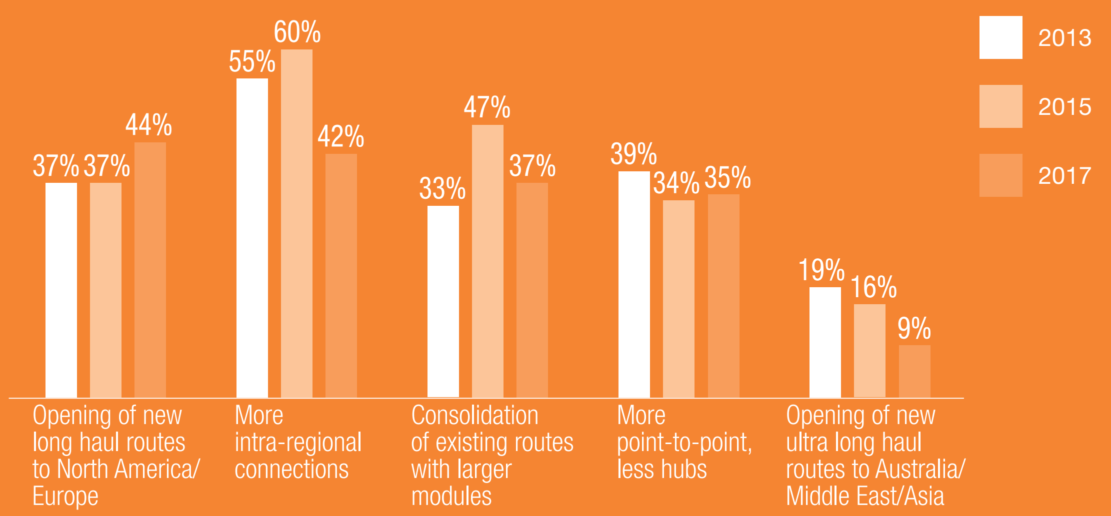
- Air Traffic Control congestion (51% of responses compared to 37% in 2015).
- Airport taxes (37% of responses compared to 13% in 2015) have become an area of much debate driven most recently by the LCCs expanding throughout the region. This topic will remain very visible for the foreseeable future.
- Lack of pilots (26% of responses compared to 8% in 2015) is also reflected in the Airbus Global Market Forecast (GMF) which identifies the need for over 49,000 new pilots in the region in the next 20 years. This is a natural result of the phenomenal growth that the region has seen and will continue to experience in the coming years.

MOST IMPORTANT INFRASTRUCTURE CONSTRAINTS IN LATIN AMERICA

While inadequate regulations has fallen as a concern from 34% in 2013 to 19% in 2017, restrictive bilateral air-service agreements that regulate the ability for airlines to operate freely between countries are still a blocking point with 42% of responses. These issues will become even more important if growth is to continue unhindered especially as more and more airline groupings such as Avianca, Copa Airlines, Viva Air and Volaris, among others, expand regionally. However, as seen in Argentina and with the US – Mexico bilateral agreement, a more liberal regulatory environment is slowly emerging.

Airport capacity and **ATC congestion** dominate the regional **infrastructure constraints**.

LONG-TERM NETWORK DEVELOPMENT OPPORTUNITIES IN LATIN AMERICA



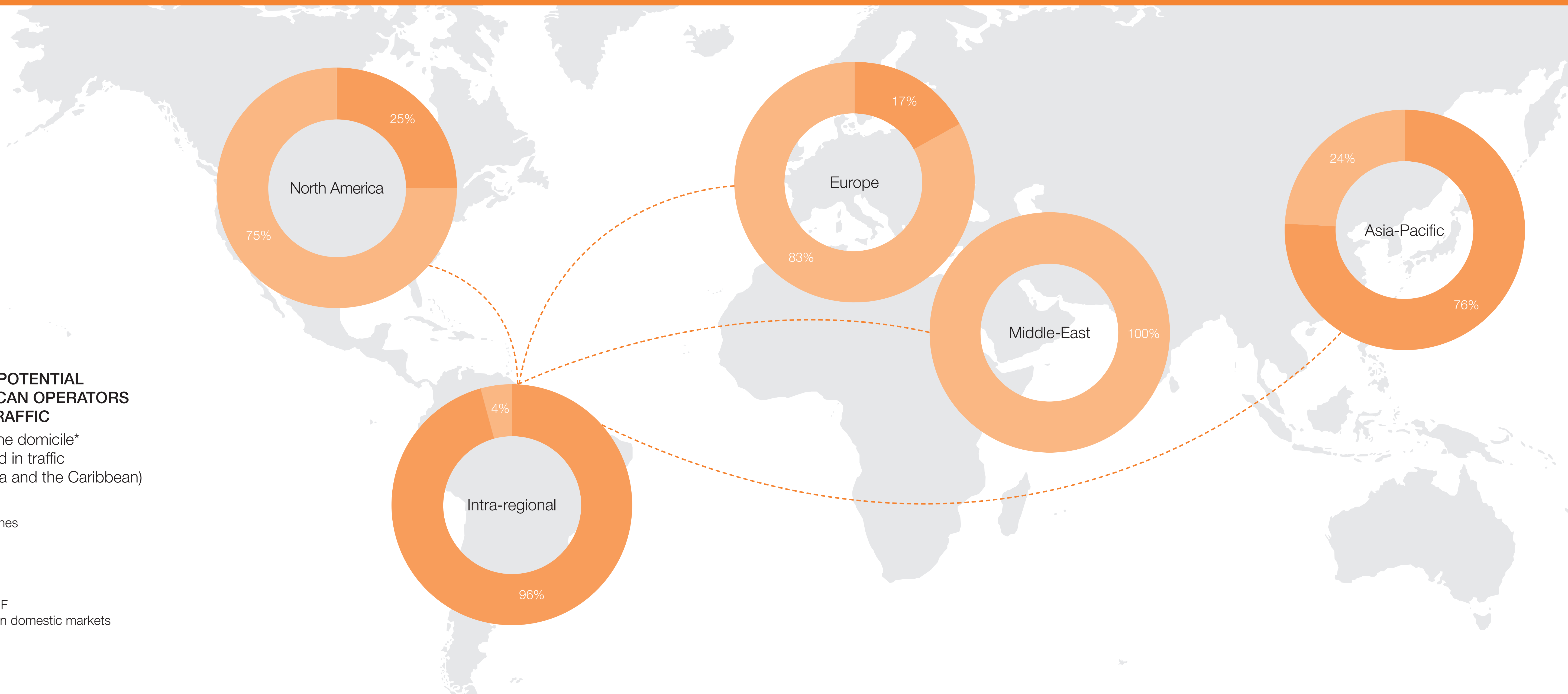
When considering long-term network development opportunities in the region, increasing the intra-regional connectivity had consistently led the responses. However, this year, it has been overtaken by the potential for new routes to North America and Europe, which is seen by 44% of respondents as an opportunity for growth compared to 37% in 2015.

This is being driven by a number of factors including:

- The increased range capability and lower operating cost of the latest generation aircraft.
- The early signs of the development of the long-haul LCC model, especially by European airlines such as Norwegian and Level.
- Opportunities to gain market share from foreign airlines that dominate the long-haul markets.

SOUND GROWTH POTENTIAL FOR LATIN AMERICAN OPERATORS ON LONG HAUL TRAFFIC

Market share by airline domicile* in 2015 (seats offered in traffic to/from Latin America and the Caribbean)

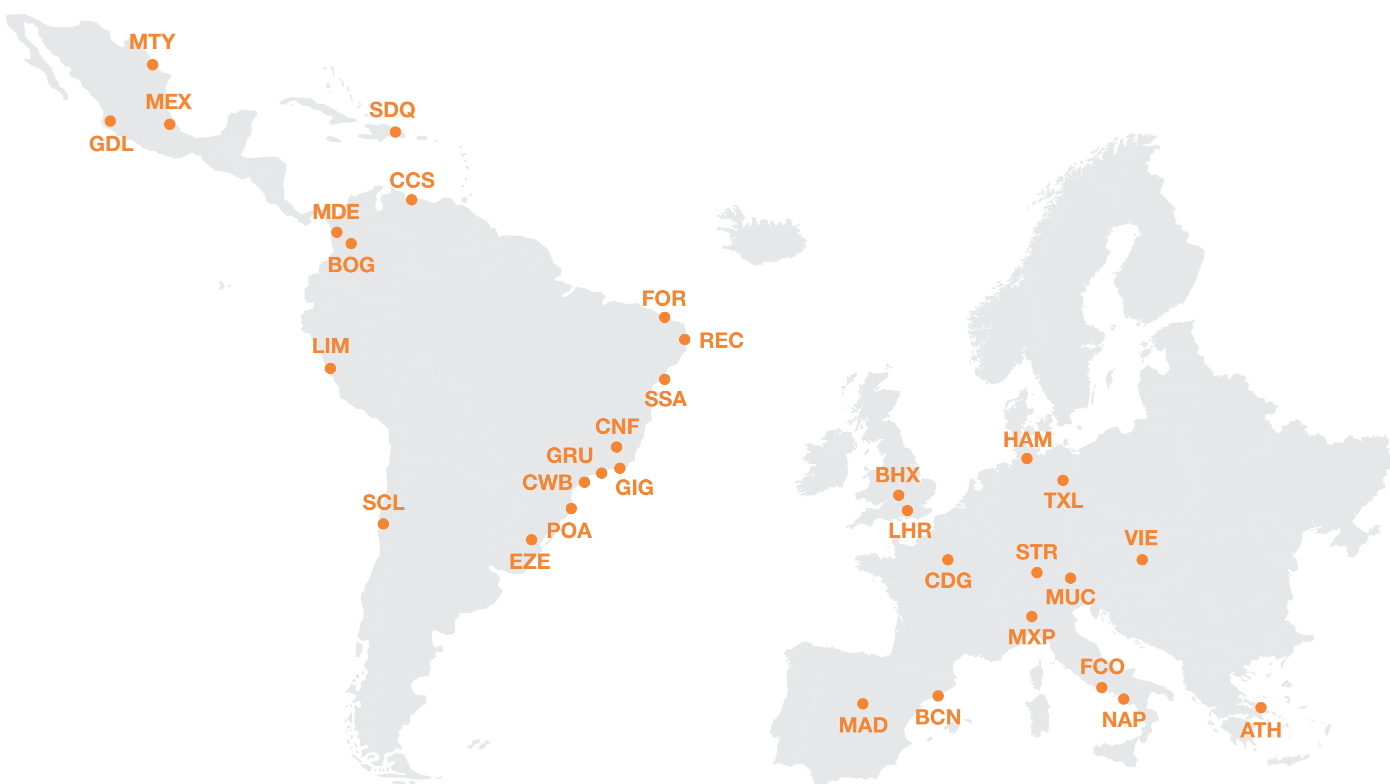


Source: OAG, Airbus GMF
*Excluding Latin American domestic markets

However, 42% of respondents still recognise the huge potential for intra-regional growth. This is no surprise as there are many opportunities for the region's carriers to be more bullish on developing intra-regional routes, a space in which Latin America falls behind as compared to other regions. Today in Latin America, ~700 intra-regional daily flights serve the 18 cities with over 3 million people (137 million people total). In contrast, Europe, which has only 14 cities with over 3 million people (77 million people total), is served by ~6,600 daily intra-regional flights.

New routes to **North America** and **Europe** are considered the most important **long-term network development.**

NUMBER OF DAILY INTRA-REGIONAL FLIGHTS TO/FROM/WITHIN CITIES WITH OVER 3 MILLION PEOPLE

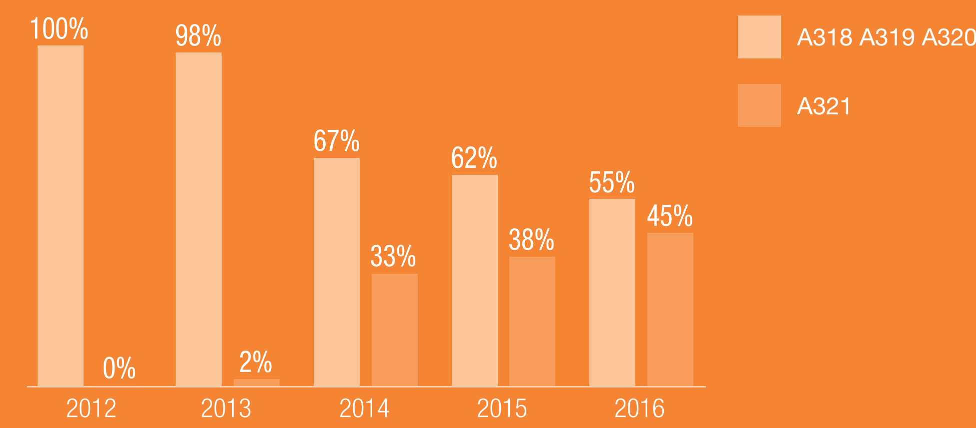


~700 intra-regional flights/day
137M people in 18 cities
18 cities with a population **>3 million in 2014**

~6,600 intra-regional flights/day
77M people in 14 cities
14 cities with a population **>3 million in 2014**

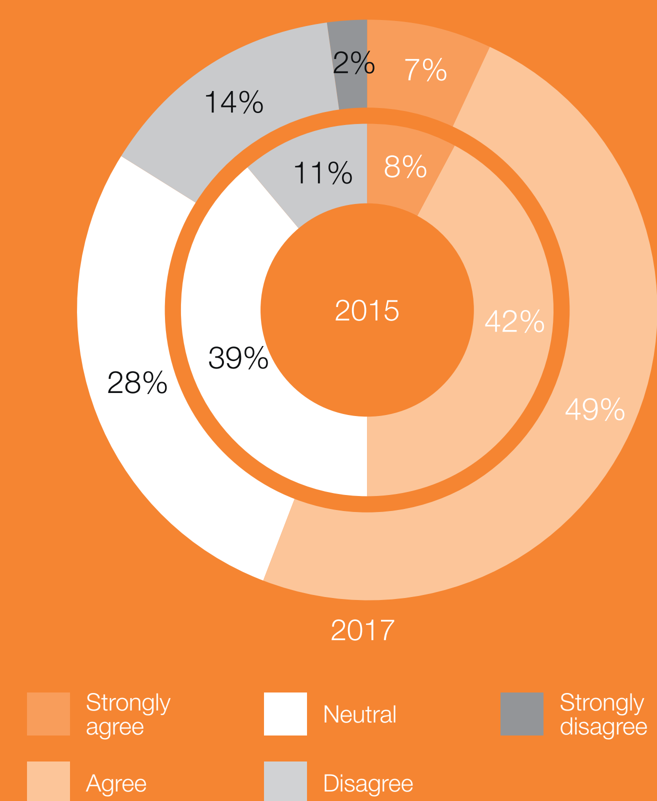
Source: UNPD Department of economic and social affairs, IHS Economics, Airbus Market Research & Forecasts

A320 FAMILY DELIVERIES IN LATIN AMERICA AND THE CARIBBEAN



And while airlines see opportunities for more intra-regional connections, 37% also still see a drive towards operating larger aircraft on existing routes, upsizing A319-sized aircraft to A320s and A320s to A321s. This trend is evident by the number of A321s delivered into the region in recent years, a trend that is consistent worldwide. The A321 provides a single solution that allows airlines to increase seating capacity, reduce unit costs and address airport and airspace capacity constraints.

THE AVERAGE AIRCRAFT SIZE CAN ONLY GROW LOOKING FORWARD

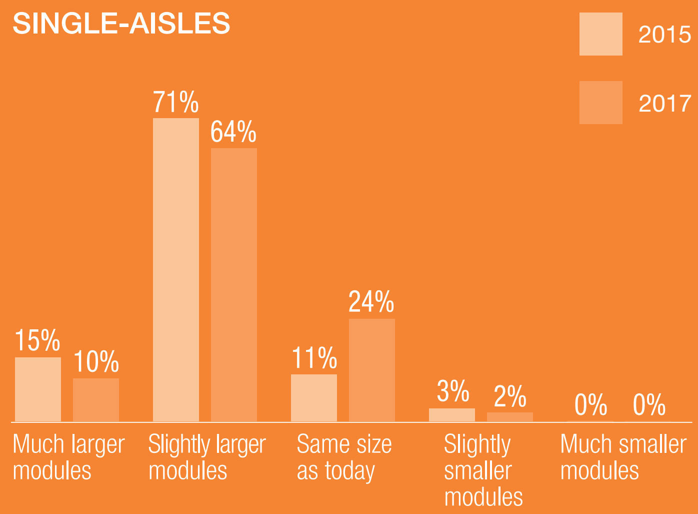


This trend is set to continue as 56% of respondents also see that the average aircraft size can only grow moving forward, up from 50% in 2015.

Clear **upsizing trend reduces unit costs** and **addresses** airport and airspace **capacity constraints.**

FUTURE REQUIREMENTS (NEXT 10 YEARS) IN TERMS OF AIRCRAFT SIZE

SINGLE-AISLES



Breaking down the results by type, it is clear that most of this upsizing is expected to take place in the single-aisle category as nearly three-quarters of respondents believe that airlines will need modules larger than those in-service today.

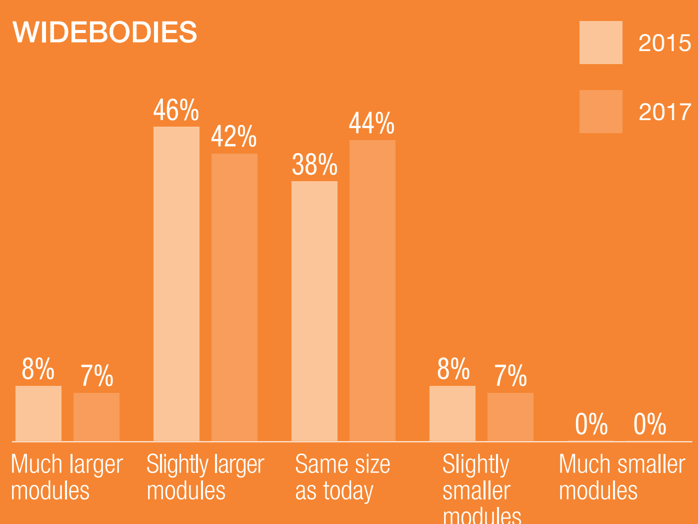
This is in line with the general upsizing trend seen worldwide and in the region.

Interestingly, 24% of respondents now see the future requirement to remain with aircraft of the same size, up from 11% in 2015.

This is a reflection of the fact that airlines have already started upsizing from A319s to A320s and from A320s to A321s.

74% indicate that future **single-aisle requirements** will be for **larger modules** than today.

WIDEBODIES

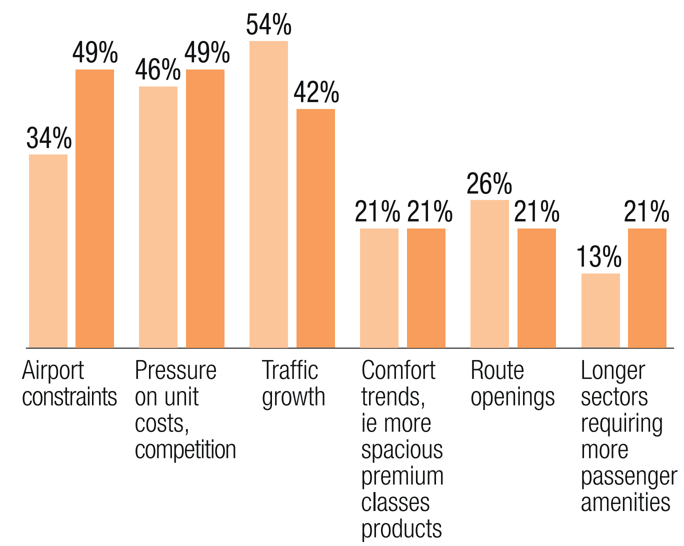


As airlines in the Latin American and Caribbean region predominantly operate single-aisle aircraft, there is not a major desire to upsize to larger widebodies. Eighty-six percent of respondents see the average widebody size staying the same as it is today or slightly increasing.

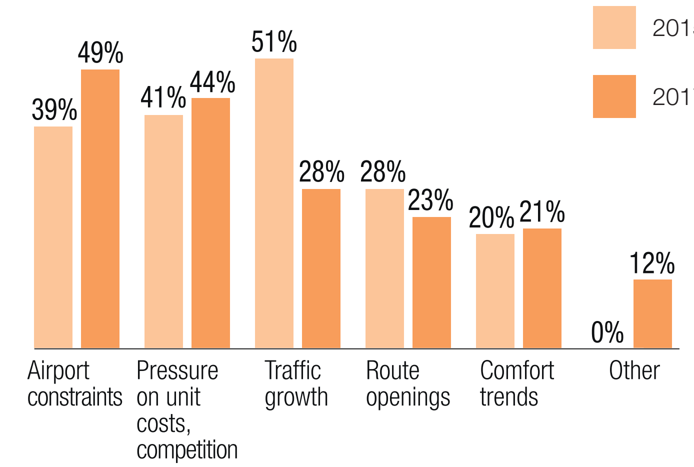
As seen previously in this report, the long-haul markets are dominated by foreign airlines. This creates opportunities for airlines in the region to rebalance the situation, which would require more widebodies. As newer generation, lower-cost widebodies such as the A350XWB and A330neo enter into service, opportunities to deploy them on regional routes that were previously uneconomical should also arise.

MOST IMPORTANT DRIVERS AFFECTING AIRCRAFT SIZE

SINGLE-AISLES



WIDEBODIES

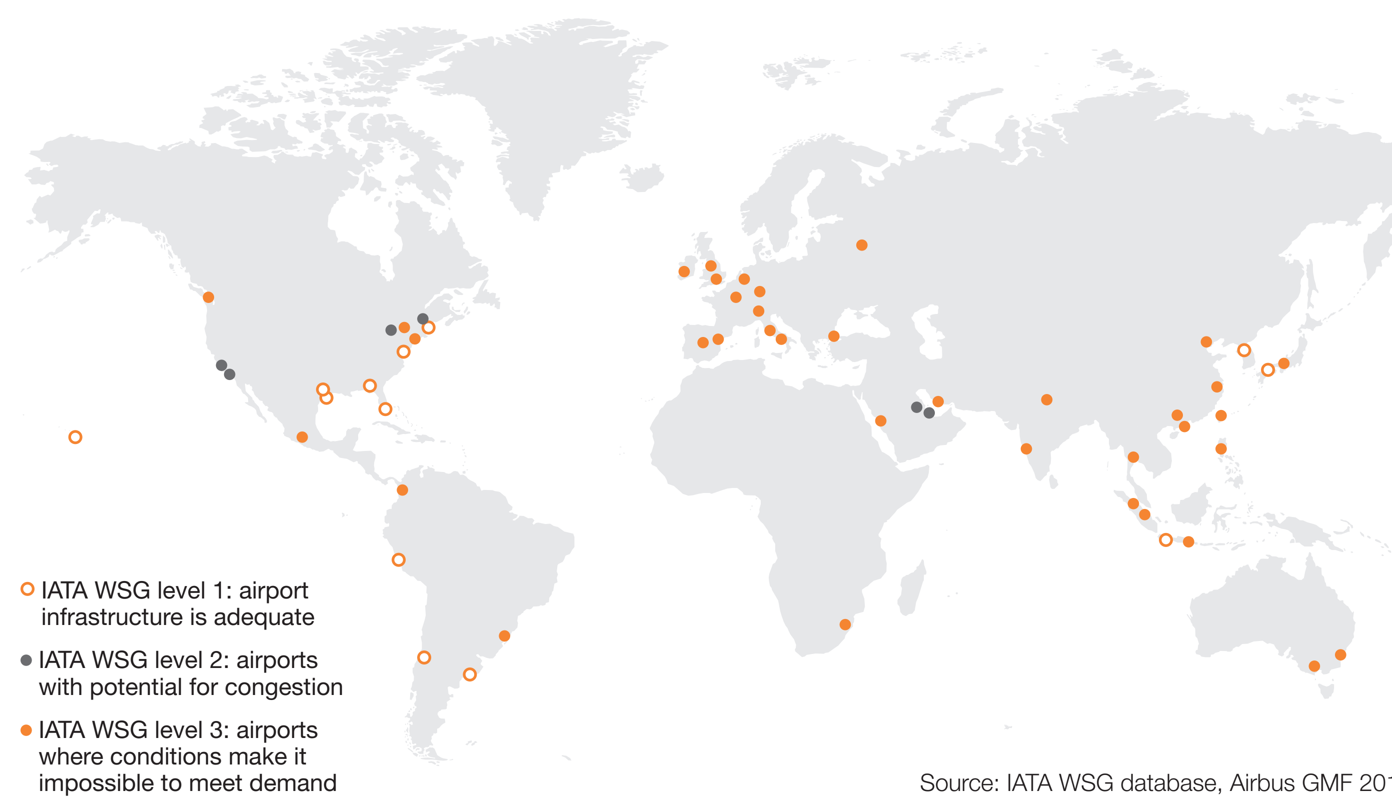


There has been a dramatic shift in the most important factors affecting aircraft size with airport constraints taking the top spot for both single-aisles and widebodies, up from just over a third of respondents in 2015 to nearly half in 2017 for single-aisles and from 39% to 49% for the widebodies.

This is again in line with the trend for upsizing aircraft, especially at congested airports, an issue that the industry is facing today and that will only become more challenging in the years to come, emphasising the need for more investment in infrastructure.

45 OF 58 AVIATION MEGA-CITIES MAIN AIRPORTS ARE SCHEDULE-CONSTRAINED

2016 Aviation Mega-Cities

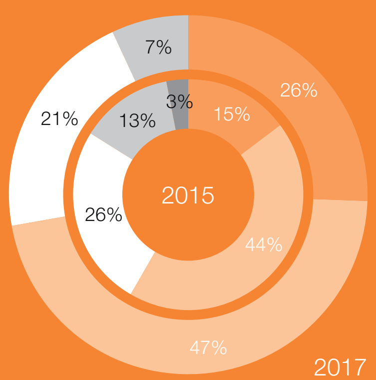


Source: IATA WSG database, Airbus GMF 2017

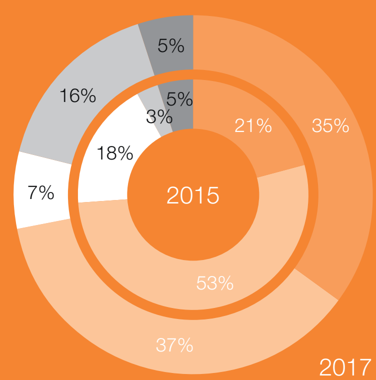
The number of respondents that still see room for more airline consolidation has increased significantly from 59% in 2015 to nearly three-quarters of respondents in 2017. Only 7% disagree. This is an interesting statistic because while the region has seen a high level of start-up activity over the last year, many have been the result of existing airlines expanding regionally.

Being part of a global airline alliance is considered essential to 72% of respondents, in line with 74% in 2015. This is unsurprising as all of the larger airlines have made their alliance choice over the last three to four years. Increased share participation from alliance partners into airlines such as GOL, Aeromexico and LATAM has also been evident over the last 12 months.

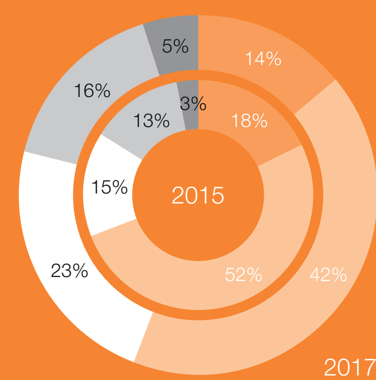
THERE IS STILL ROOM FOR MORE AIRLINE CONSOLIDATION/MERGERS



IT IS BECOMING ESSENTIAL TO BE PART OF AN AIRLINE ALLIANCE



IMPORTANCE OF HUBS WILL CONTINUE TO GROW IN THE FUTURE



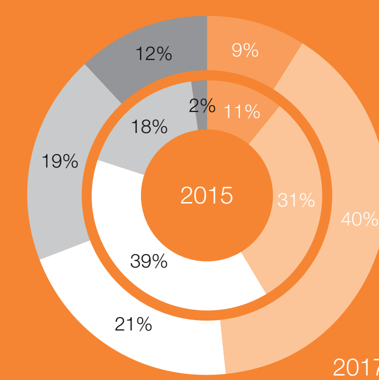
Strongly agree
Agree
Neutral
Disagree
Strongly disagree

While 56% of respondents still see that the importance of regional hubs will continue to grow, this is lower than the 70% that thought the same in 2015. The high levels of urbaniza-tion concentrated in a relatively small number of major cities in the region clearly drives the need for hubs although the recent emergence of LCCs connecting more and more secondary cities is beginning to affect this trend.

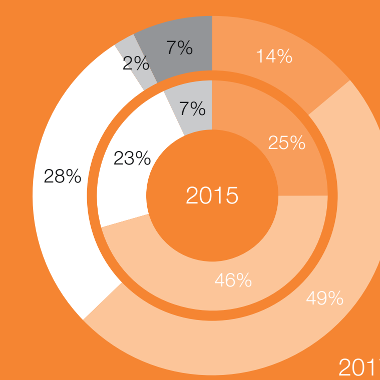
As more than half of respondents are either neutral or disagree, the market is divided as to whether there is the need for more aircraft sizes to serve various markets.

Belly cargo will continue to play an important role in the air cargo business according to 63% of respondents. Only 7% of respondents strongly disagree. This supports the trend away from all-freighter aircraft, driven by the availability of more belly cargo capacity on the larger widebodies entering the market.

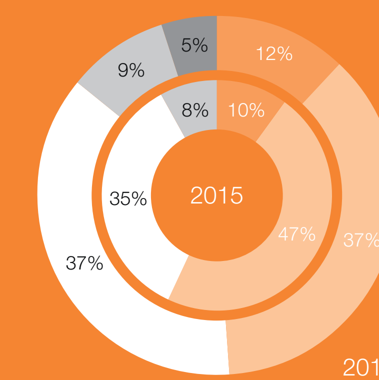
MORE AIRCRAFT SIZES ARE NEEDED TO SERVE VARIOUS MARKETS



BELLY CARGO WILL HAVE A GREATER ROLE THAN TODAY



LONG-HAUL TRAVEL WILL REQUIRE LARGER MODULES TO ENSURE PROFITABILITY

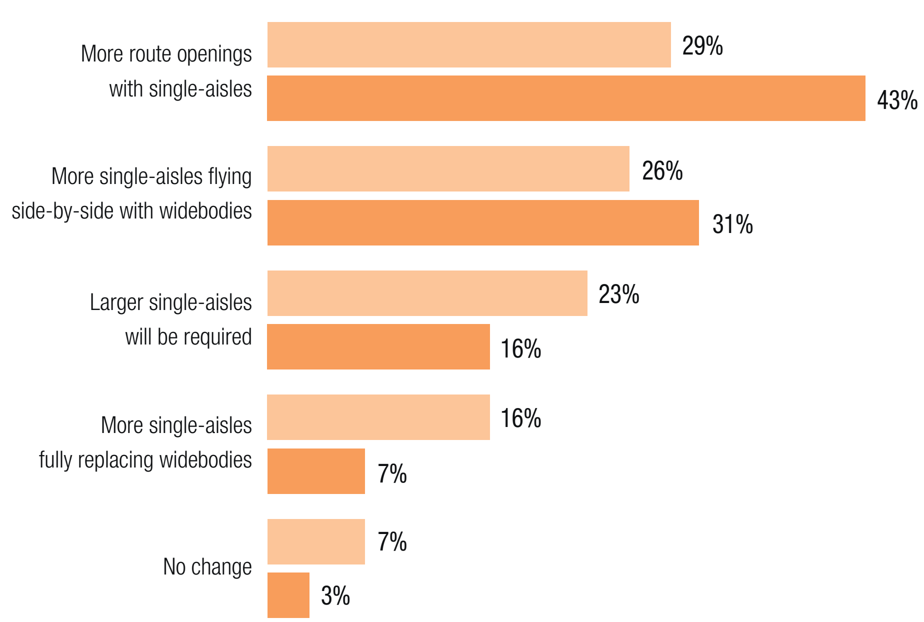


Interestingly less than half of res-pondents believe long haul will require larger modules to ensure profitability - down from 57% in 2015. This is a positive reflection on the introduction of the new-generation widebodies such as the A350XWB that are larger and more cost efficient than the current generation.

SINGLE-AISLES NOW CAPABLE OF FLYING LONGER HAUL MISSIONS

HOW THIS CAN CHANGE AIRLINES' FLEET STRUCTURES IN LATIN AMERICA

2017
2015



Due to the increased long-haul capability of single-aisles thanks to the lower fuel burn of the A320neo and innovative developments such as the A321LR, 43% of respondents see this as an opportunity for more route openings with single-aisle aircraft, a significant increase from 29% in 2015.

These aircraft should, in some way, address the geographical distances that were limiting regional connectivity and network developments.

Interestingly only 16% of respondents see larger single-aisle aircraft required for the longer missions suggesting that today's single-aisle offering is sufficient for the longer routes before stepping up to widebodies.

Longer-haul single-aisle aircraft will **increase regional connectivity.**

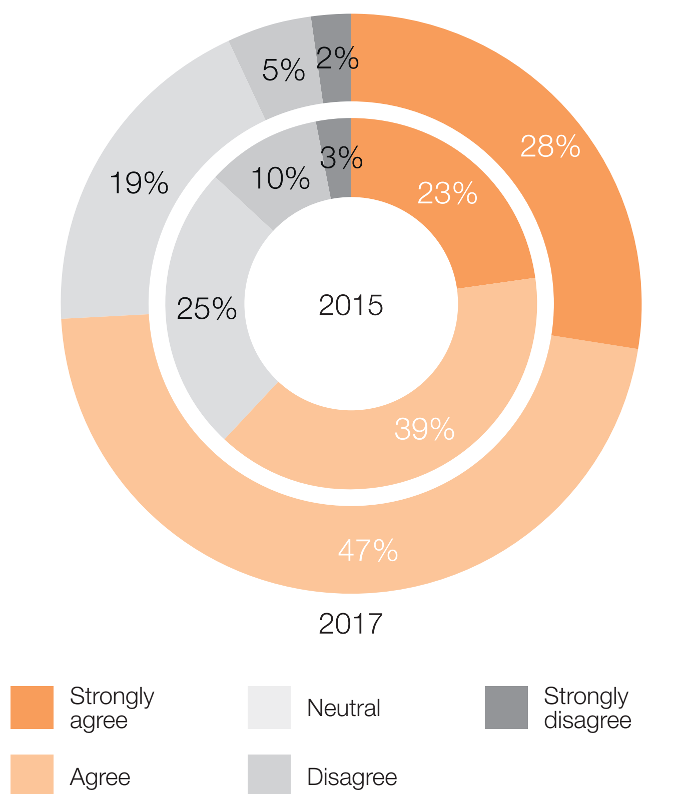
LCC activity has **increased dramatically** over the last year.

Finally, and reflecting one of the most dramatic developments in the region in the last 12 months, three-quarters of respondents see the LCC market share growing in the future, a significant increase from the 62% only two years ago. This is clearly a reflection on the significant amount of activity in the LCC market in the region.

While in 2013 nearly all of the LCC traffic was in two countries — Brazil and Mexico — this figure reduced to 94% in 2016 and will continue to fall as the LCC model develops in other markets as seen by the dramatic second wave of activity over the last year. This will have a significant impact on the regional market over the next few years.

This will then be complemented by the even more recent emergence of the long-haul LCC model entering the Latin America and the Caribbean market, initially led by Norwegian and Level.

LCC MARKET SHARES WILL CONTINUE TO GROW

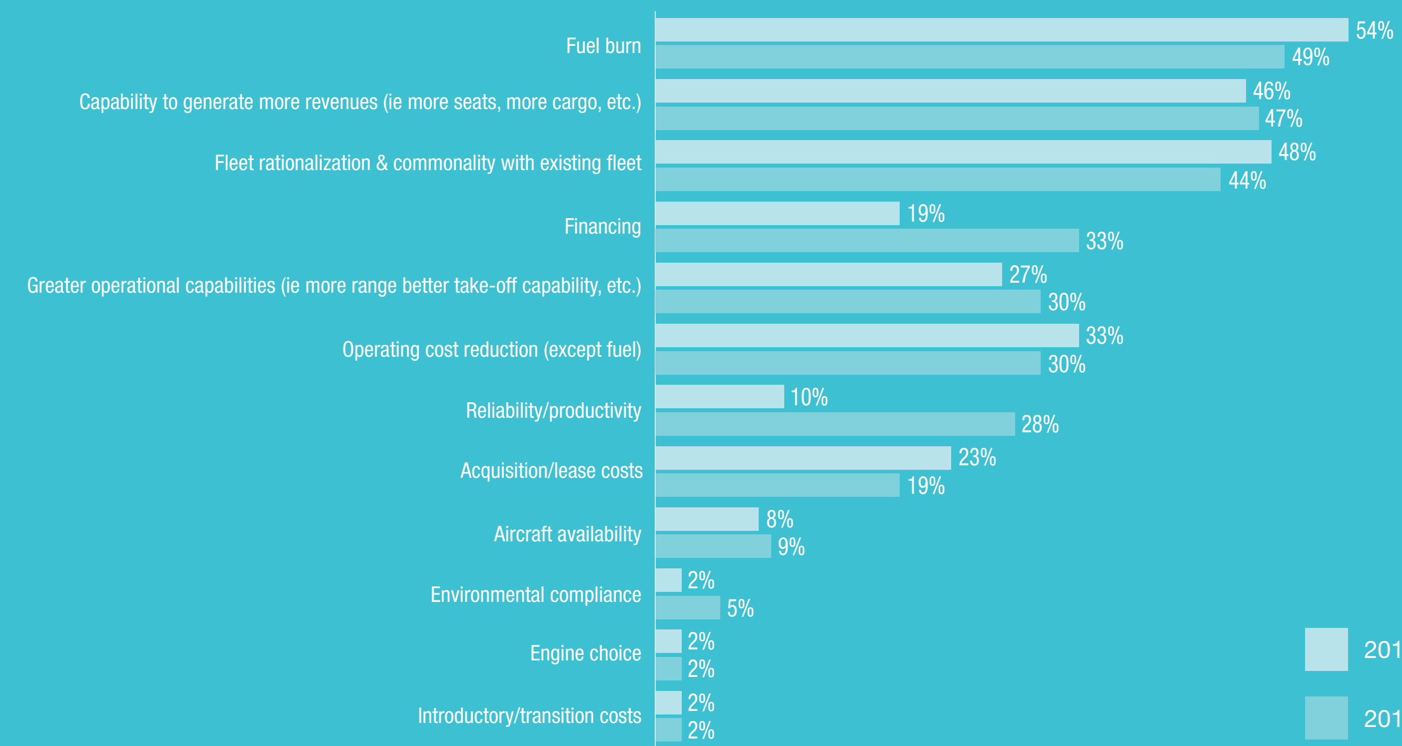


FIRST WAVE OF LCCs

SECOND WAVE OF LCCs

FLEET DECISIONS

MOST IMPORTANT CRITERIA TODAY WHEN ACQUIRING/OPERATING NEW AIRCRAFT



Fuel burn still leads the aircraft fleet decision process, but with 49% of respondents considering it a key criteria, its importance has reduced slightly as compared to 54% in 2015. Driving this trend is the combination of lower fuel prices and the introduction of new-technology engines resulting in fuel being a lower proportion of an airline's overall costs today as compared to 2015.

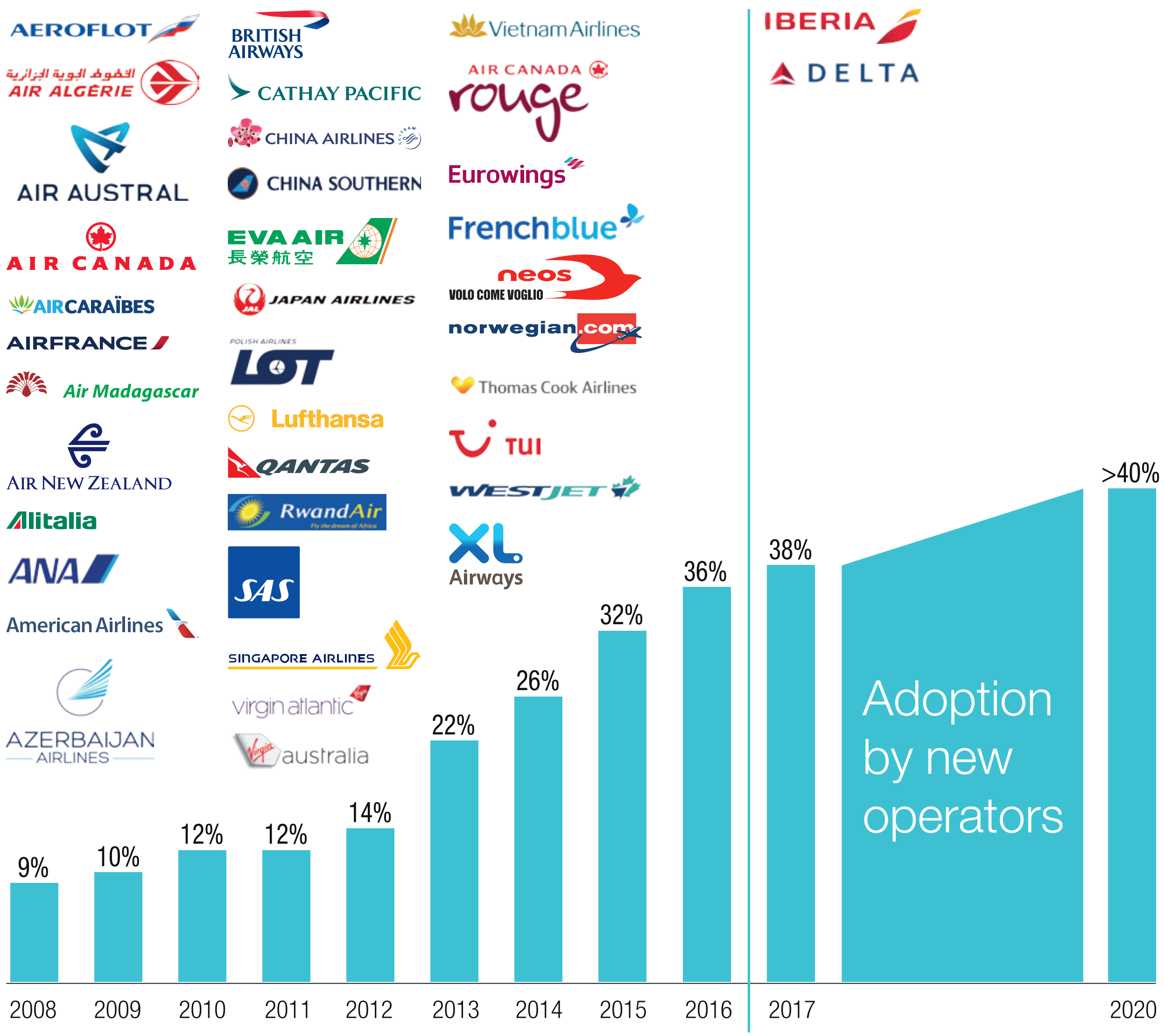
However, this does not hide the fact that even at lower prices and with lower fuel burn, fuel still represents between 30% and 40% of total operating costs and any fuel burn reduction has a direct impact on increased margins. Investing today in more fuel-efficient aircraft is a natural hedge against higher prices in the future.

A320 AIRSPACE CABIN

The capability to generate more revenue by, for example, adding more seats comes in a close second with 47%. To address this requirement, Airbus is investing in increasing seat count and improving the cabin experience with the introduction of new innovative features such as Spaceflex, Smartlavs and the Airspace cabin.

However, increasing revenues is not just about adding more seats. The yield mix is becoming more relevant as airlines segment their cabins in an increasingly innovative number of ways whether by simply offering different seat pitches or introducing a new class of service such as Premium Economy.

NUMBER OF AIRLINES WITH PREMIUM ECONOMY



Sources: Airbus Bio-Tool, ch-aviation, seatguru, airline websites, Dec 2016

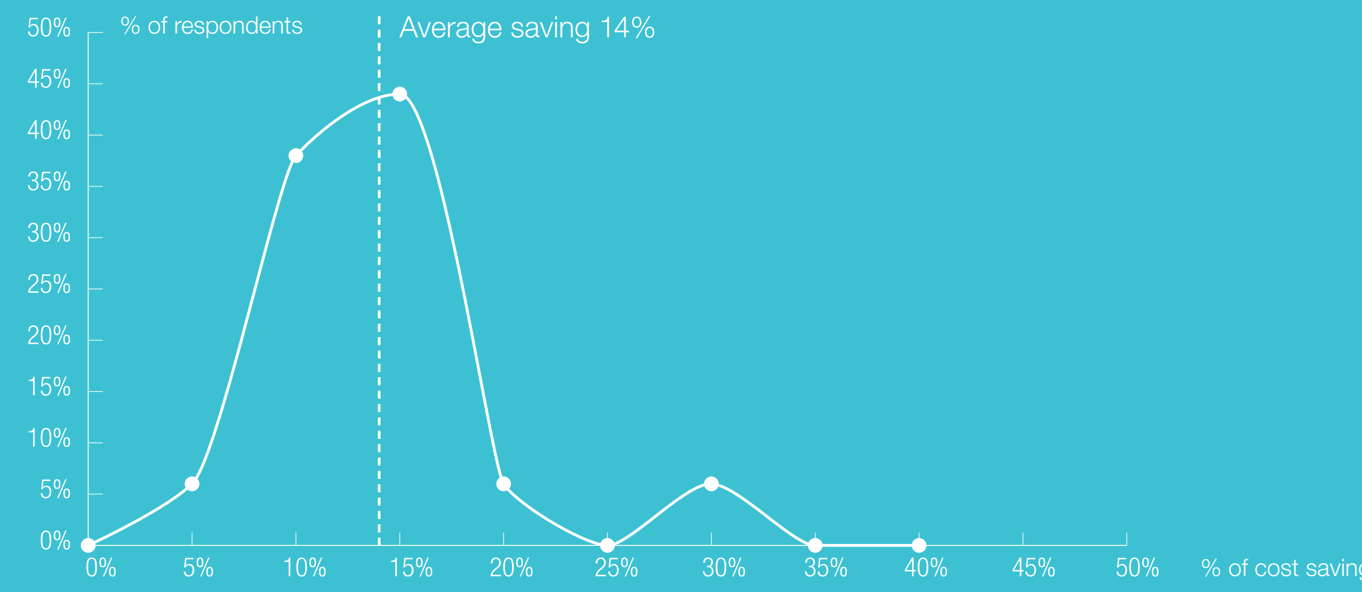
Naturally, fleet rationalization scores highly with 44% of respondents seeing the ability to operate a reduced number of sub-fleets, while benefitting from pilot and mechanic commonality, as key.

Despite the current low interest rate environment the importance of competitive financing has seen a big increase, up from 19% in 2015 to 33% in 2017. As fuel costs fall, finance costs become more important in the overall airline cost base and is therefore under increasing pressure.

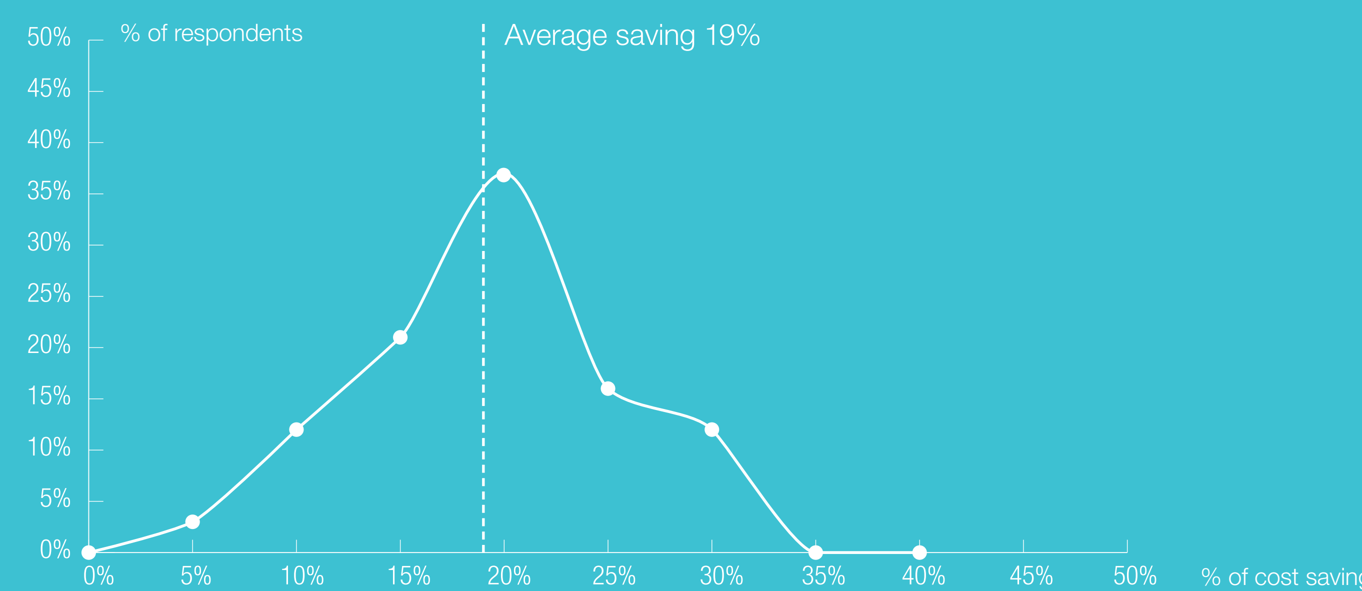
It is also noted that aircraft reliability has increased significantly from 10% in 2015 to 28% in 2017 as a key driver when acquiring/operating new aircraft, clearly a reflection of some of the entry-into-service issues that recent new aircraft programs have faced.

PERCENTAGE OF OPERATING COST PER TRIP SAVINGS TO JUSTIFY A FLEET TRANSITION

Transition to another aircraft type of the same generation

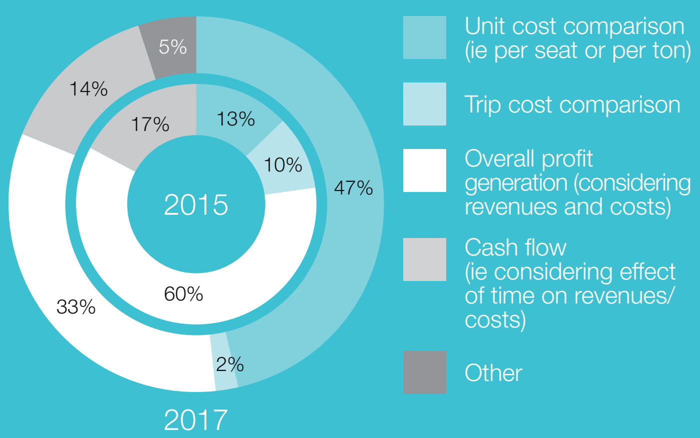


Transition to a newer generation aircraft type



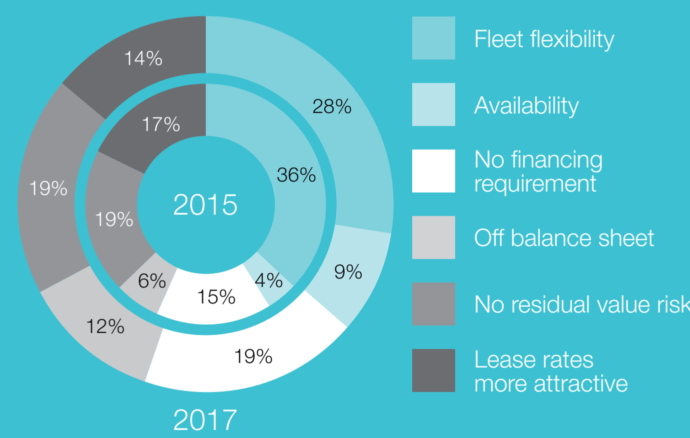
As in the previous surveys, to justify a fleet transition, airlines in Latin America and the Caribbean expect approximately a 14% cost saving for aircraft of the same generation and 19% for aircraft of a newer generation. These figures are in line with the market and are needed to offset the cost burden to move to a different fleet and the higher purchase price of newer-generation aircraft.

MOST RELEVANT CALCULATION WHEN EVALUATING A FLEET SCENARIO



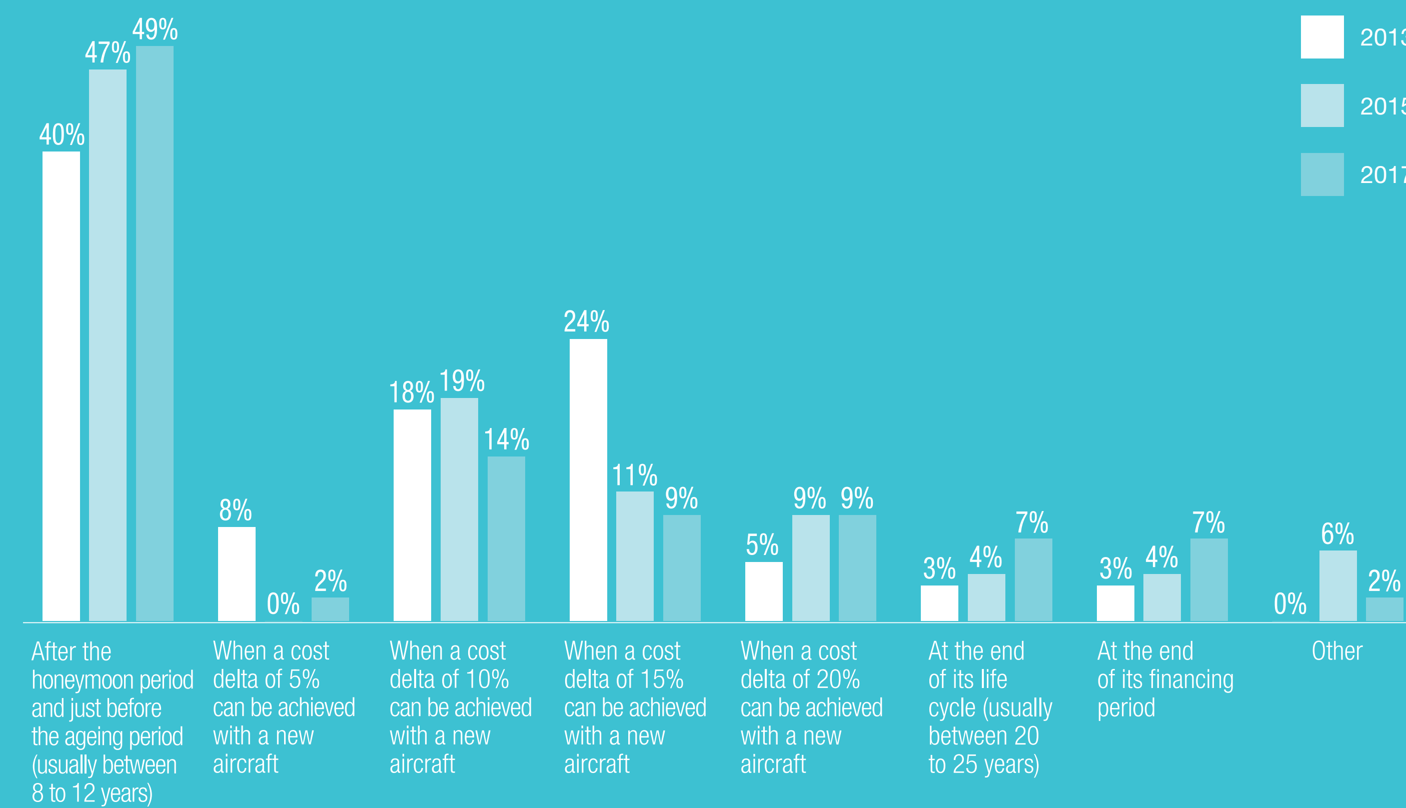
When evaluating a fleet scenario, there has been a marked change in the most relevant calculation airlines consider with unit cost (per seat or per ton) being chosen by nearly half of respondents compared to only 13% in 2015. Focusing on overall profit has fallen from 60% to 33%. This could be due to the emergence of more LCCs where unit cost is the paramount driving factor. It will be interesting to see if this trend continues in future years.

MAJOR CRITERIA FOR DECIDING TO LEASE INSTEAD OF BUYING



Fleet flexibility remains the major criteria in favour of leasing over buying, but it has fallen from 36% of responses to 28% in 2017. The elimination of residual value risk and the fact that financing will not be required both remained steady at 19% with very little movement from 2015. Interestingly the attractiveness of lease rates as a criteria has fallen slightly, which reflects the current low interest rate environment, making buying a more attractive option. At the same time, aircraft availability has increased as a criteria, a reflection on the record-breaking delivery backlogs where leasing is the only possibility to have access to early delivery positions.

BEST TIME FOR DISPOSING AN AIRCRAFT FROM A FLEET



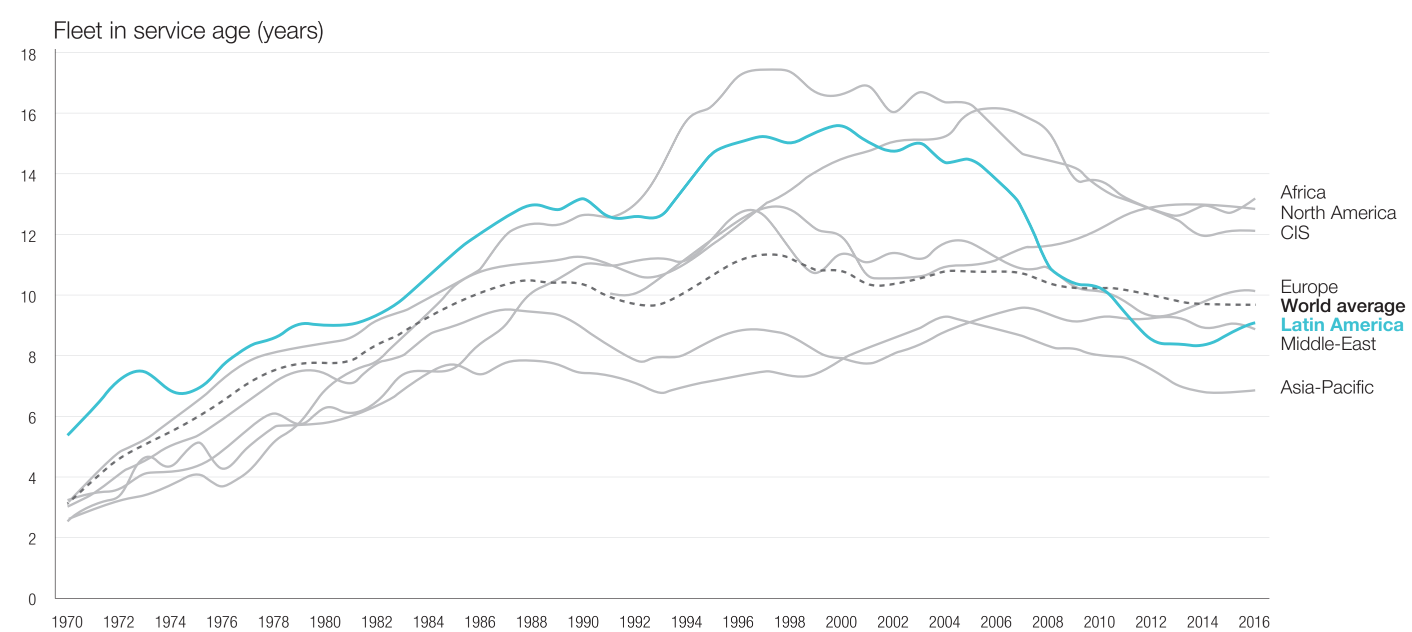
Airlines in Latin America and the Caribbean continue to highly prefer phasing out their aircraft after the honeymoon period and before the effects of ageing begin to show. Survey results show that nearly half of respondents opt to phase out aircraft between eight and 12 years, slightly higher than in the 2015 survey.

A preference for phasing out aircraft **between 8 and 12 years** reflects the region's young average fleet age.

This is reflected today as Latin America's fleet is considerably younger than the world's average. This has not always been the case. Only 15 years ago, the region's average aircraft age was significantly higher than the world average. However, over the last 10 years there has been a huge investment in fleet renewals and new technology, mainly driven by the A320 Family. With the significant aircraft backlog in the region plus the emergence of new LCCs, the trend to drive the average aircraft age down will only continue.

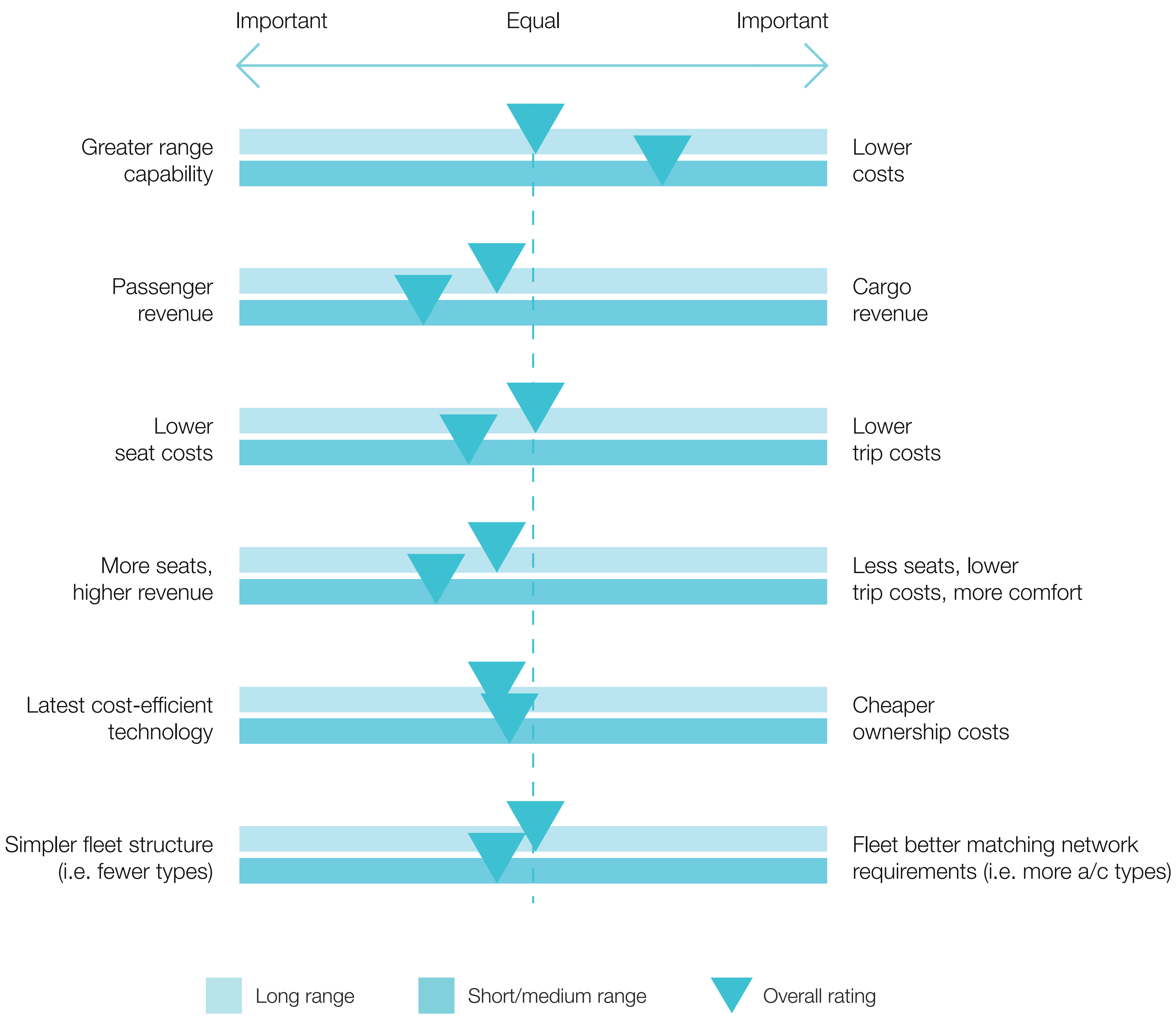
The trend is yet to appear in the Caribbean, however, where the average fleet age is significantly higher than the world's average as airlines tend to keep aircraft much longer. There are signs that this will change in the future as airlines recognise the advantage of newer, lower-cost equipment.

LATIN AMERICA AIRCRAFT FLEET IN SERVICE IS YOUNGER THAN THE WORLD'S AVERAGE



Notes: As at end of year, passenger and combi aircraft above 100 seats / Source: Ascend, Airbus GMF 2017

AIRCRAFT CHARACTERISTICS PREFERENCES IN LATIN AMERICA AND THE CARIBBEAN



When given the choice between two different aircraft characteristics, respondents do not see a big difference in preference between long-range and short/medium-range. The one exception is when comparing range against cost on short/medium-range operations where lower cost is the main preference.

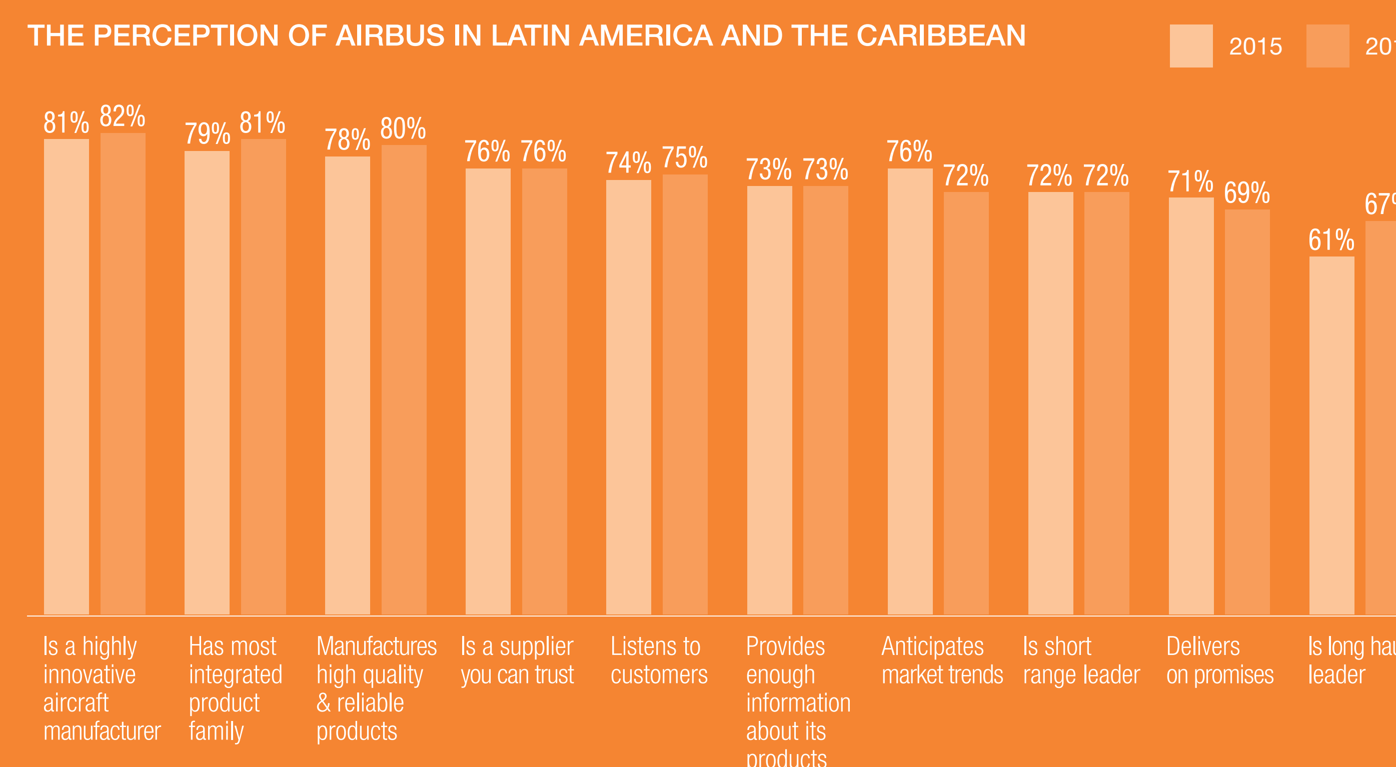
On longer-range missions no significantly clear preferences for any of the comparisons were identified. This reflects how each airline has their own unique business model, therefore making it very difficult to identify characteristics that appeal to everyone.

On short/medium-range missions some preferences were more evident with passenger revenue preferred over cargo revenue. More seats leading to lower seat costs was again evident, once again reflecting the growing LCC market in the region.

PERCEPTION OF AIRBUS VS. COMPETITION

In 2017, Airbus continues to enjoy high satisfaction rates on key criteria in Latin America and the Caribbean, having increased its rating in six out of the 10 categories since 2015.

THE PERCEPTION OF AIRBUS IN LATIN AMERICA AND THE CARIBBEAN

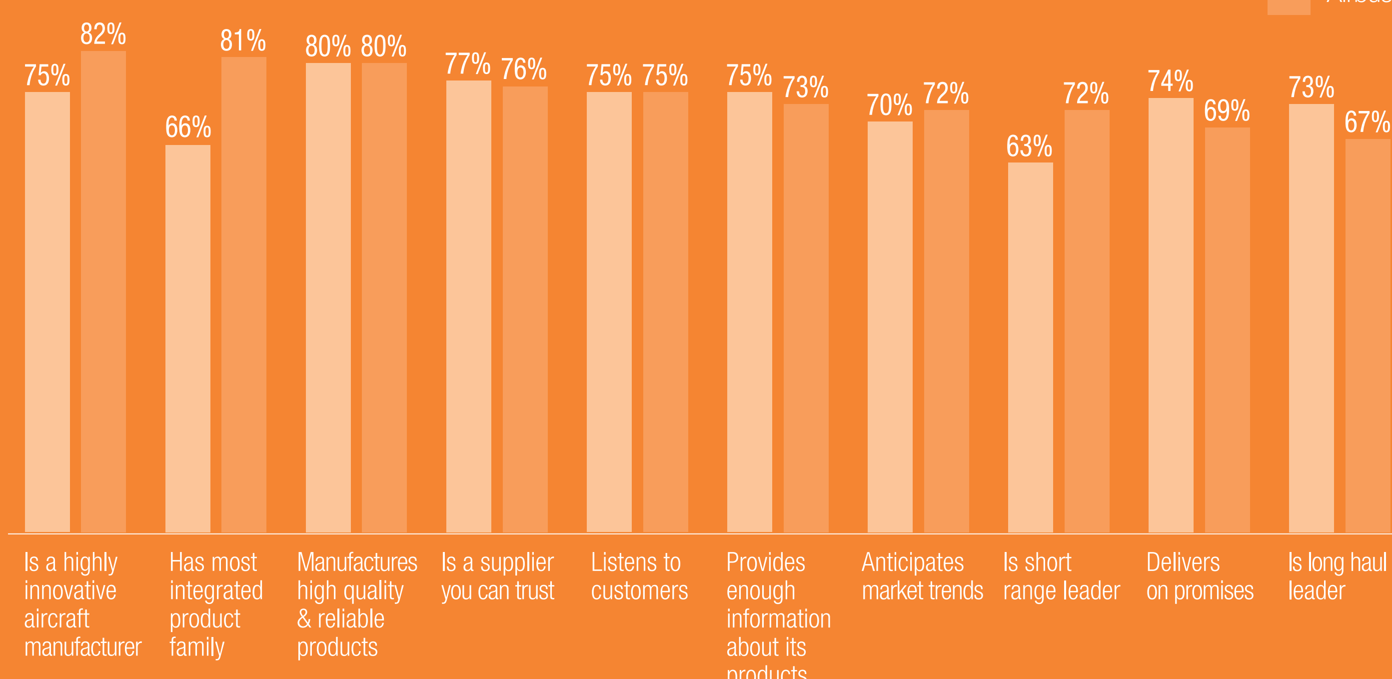


When compared to the competition, Airbus continues to maintain its highest score for being a highly innovative aircraft manufacturer with 82% of responses. Innovation is core to Airbus' business and will continue to be so in the future. From the world's first twin-aisle, twin-engine aircraft to fly-by-wire to the A380, Airbus continues to bring innovation to the market. The incremental innovation strategy brings the latest technologies as quickly as possible to the airlines allowing them to reduce costs, increase revenues and operate as efficiently as possible.

The second-highest satisfaction rating recognizes that Airbus continues to offer the most integrated product family thanks to the fly-by-wire technology and the commonality concept that it offers across the whole Airbus family. Reducing the time for pilots and mechanics to transition between aircraft types allows airlines to make substantial savings in cost and productivity.

Airbus is also seen as the short-range leader, which comes as no surprise considering the significant single-aisle market share advantage that the A320 Family holds in the region.

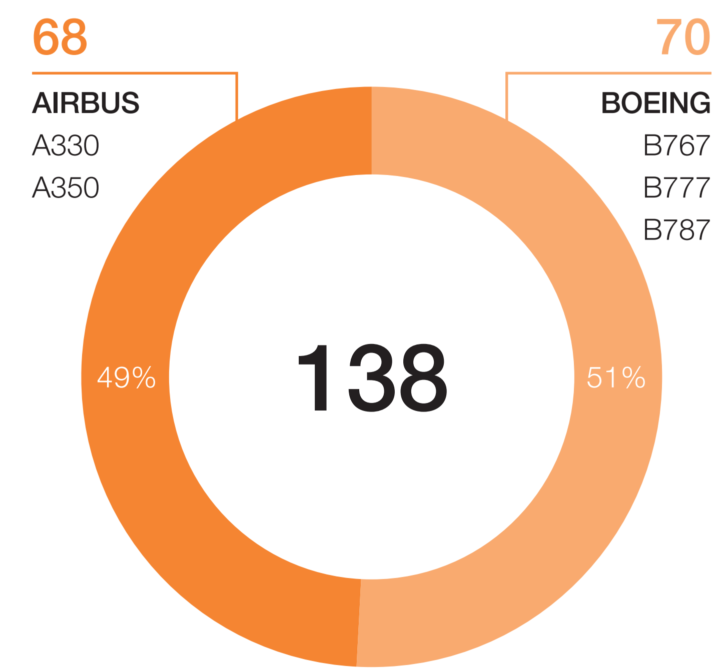
THE PERCEPTION OF AIRBUS VS. COMPETITION IN LATIN AMERICA AND THE CARIBBEAN



One area that has seen progress in perception is in the long-haul market where the gap with the competition has closed thanks to the introduction of the A350XWB into the region and the continuing momentum behind the A330neo. In fact, over the last 10 years, the Airbus share of widebody sales in the region is very close to 50%, a fact that is not well recognised in the market.

TOTAL LATIN AMERICA AND THE CARIBBEAN NET WIDEBODY ORDERS 2007-2016

End December 2016 - Pax and Freighter a/c / Source: Airbus and Boeing



Latin American aviation executives continue to rank **Airbus** as the **most innovative aircraft manufacturer** with the most **integrated product family**.

SURVEY METHODOLOGY

This anonymous survey was conducted between February and April 2017. Answers were received from 57 respondents throughout the Latin America and the Caribbean region. Survey participants included 51% in top management (CEO, President, Board member) or senior management (EVP/SVP/VP) and 58% have 16 years or more of experience in the aviation business. Respondents mostly worked in three areas: Strategy/Fleet Planning (28%), Operations (18%) and Technical (15%). 51% of answers were submitted by participants in network carriers, with 35% from LCCs (up from 16% in 2015).

TO FIND OUT MORE ABOUT THIS REPORT

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