

MARKET OUTLOOK 2015 2034

PLANNING FOR THE FUTURE



Dear Reader:

It's reassuring to see many of our customers prospering as the airline industry reports stronger bottom line results. As much as it may be tempting for carriers to start adding bigger airplanes as demand strengthens and costs stabilize, our business is cyclical and things can change quickly.

We've seen how too much capacity and a strategy to capture more market share can, in some cases, be a tradeoff for weak yields and low return on assets. The airline business is very capital intensive which makes it all the more imperative to have a business model that is sustainable since short-term strategies may carry undue risk. We welcome the emerging trend among airlines to focus on generating return on shareholder-invested capital as their main goal.

It's one of the reasons why we continue to see new opportunities for the 70 to 130-seat jet segment, even a decade after our first E-Jet was delivered. Across the globe, there is a continuous need for more network connectivity and frequency: the tremendous traffic growth in Asia, greater disposable income among a rising middle class in Africa and Latin America, continued strength in the USA and economic recovery in Europe.

Planning for the future is always a tough challenge. Not only do airlines need to estimate their capacity requirements far in advance, they must also ensure that their investment in new equipment earns an acceptable return on those assets. Understanding how 70 to 130-seat aircraft influence that return is critical, especially as we enter a period of new growth.

I hope you find our Market Outlook informative and insightful.



PAULO CESAR DE SOUZA E SILVA
President & CEO | Commercial Aviation

June 2015

FORECAST SUMMARY

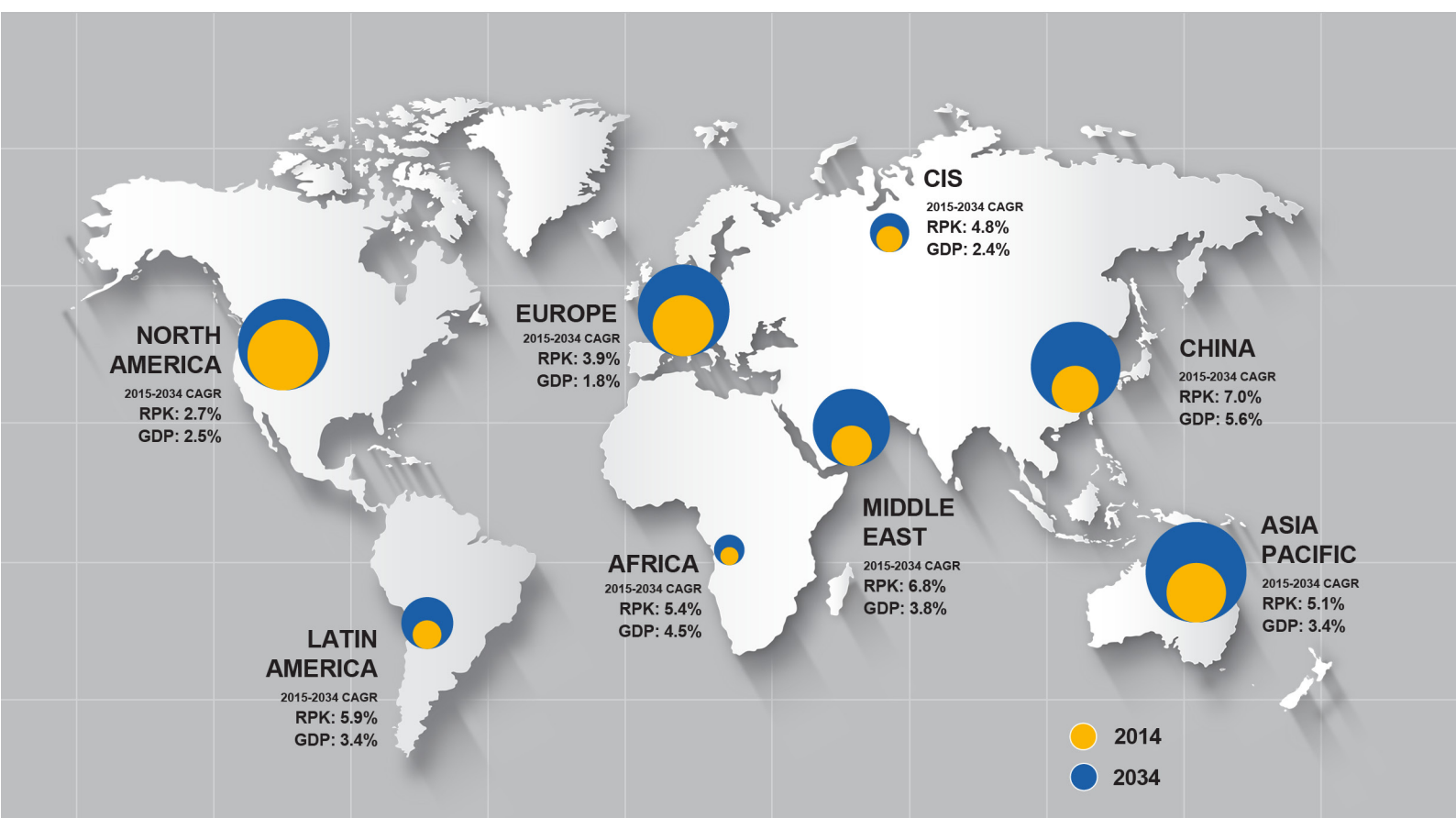
RPK AND GDP GROWTH RATES

Fueled by the economic strength of emerging markets and further recovery in the USA and Europe, a surge in urban middle class purchase power, regulatory liberalization and competition, passenger traffic is expected to maintain 4.9% annual growth over the next two decades. Despite external shocks to the system, air travel has proven to be resilient to ruptures and always returns to its historical trend over the long term.

Over the next twenty years, China and the Middle East will be the fastest-growing markets with an average annual RPK growth rate of around 7.0%, followed by the emerging regions of Latin America with 5.9%, Africa with 5.4%, Asia Pacific and the Commonwealth of Independent States (CIS) with around 5.0% and the mature markets of Europe and North America with 3.9% and 2.7%, respectively.

World air transport demand will increase 2.6 fold by 2034, reaching 13.9 trillion RPKs for all commercial aircraft segments.

Asia Pacific and China will be the largest markets, accounting for 38% of world RPKs. Europe and North America will generate 35% of total air transport demand.



THE 70 TO 130-SEAT JET SEGMENT

Embraer foresees world demand for 6,350 new jets in the 70 to 130-seat segment over the next 20 years, representing a total market value of US\$ 300 billion.

By 2034, 61% of projected deliveries will support market growth and the remaining 39% will replace ageing equipment. Also by 2034, 2,250 70 to 90-seat jets will be delivered worldwide to sustain hub-and-spoke efficiency as those aircraft have the capability to link many lower-density markets to major hubs and to develop regional aviation in emerging countries.

The 90 to 130-seat jet segment provides the opportunity to complement current narrow-body operations and to develop new markets with lower risk. Some 4,100 aircraft in the 90 to 130-seat jet segment will be delivered in the next 20 years.

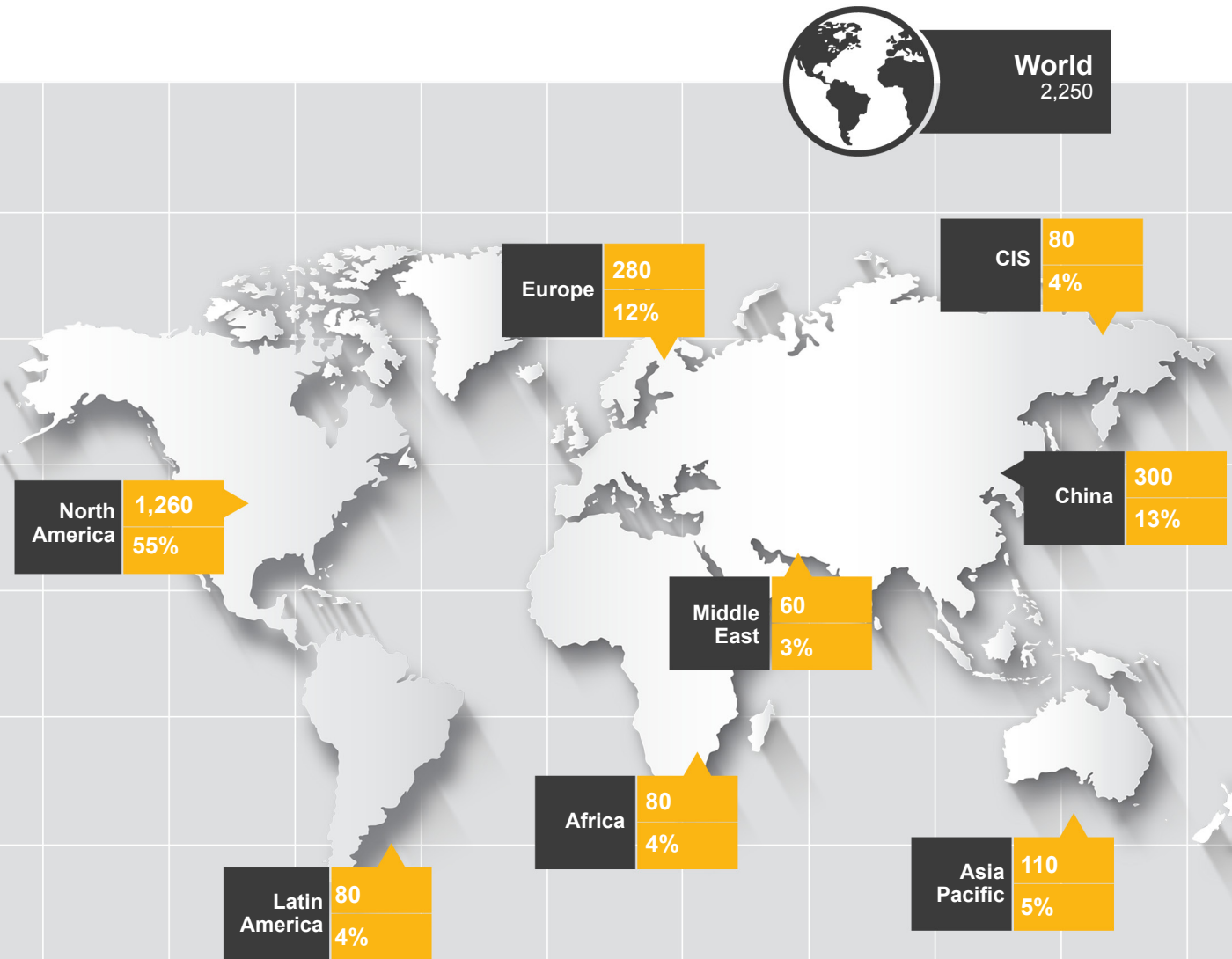
70+ TURBOPROP SEGMENT

Short-haul operations will drive a worldwide demand for 2,050 turboprops with a capacity of 70 seats or more by 2034. Of these, 63% will support market growth and 37% will replace ageing aircraft. For mid and long-haul operations, jet aircraft will continue to be more attractive because of their overall operational efficiency and schedule compatibility with narrow-body jets.

THE 130 TO 210-SEAT JET SEGMENT

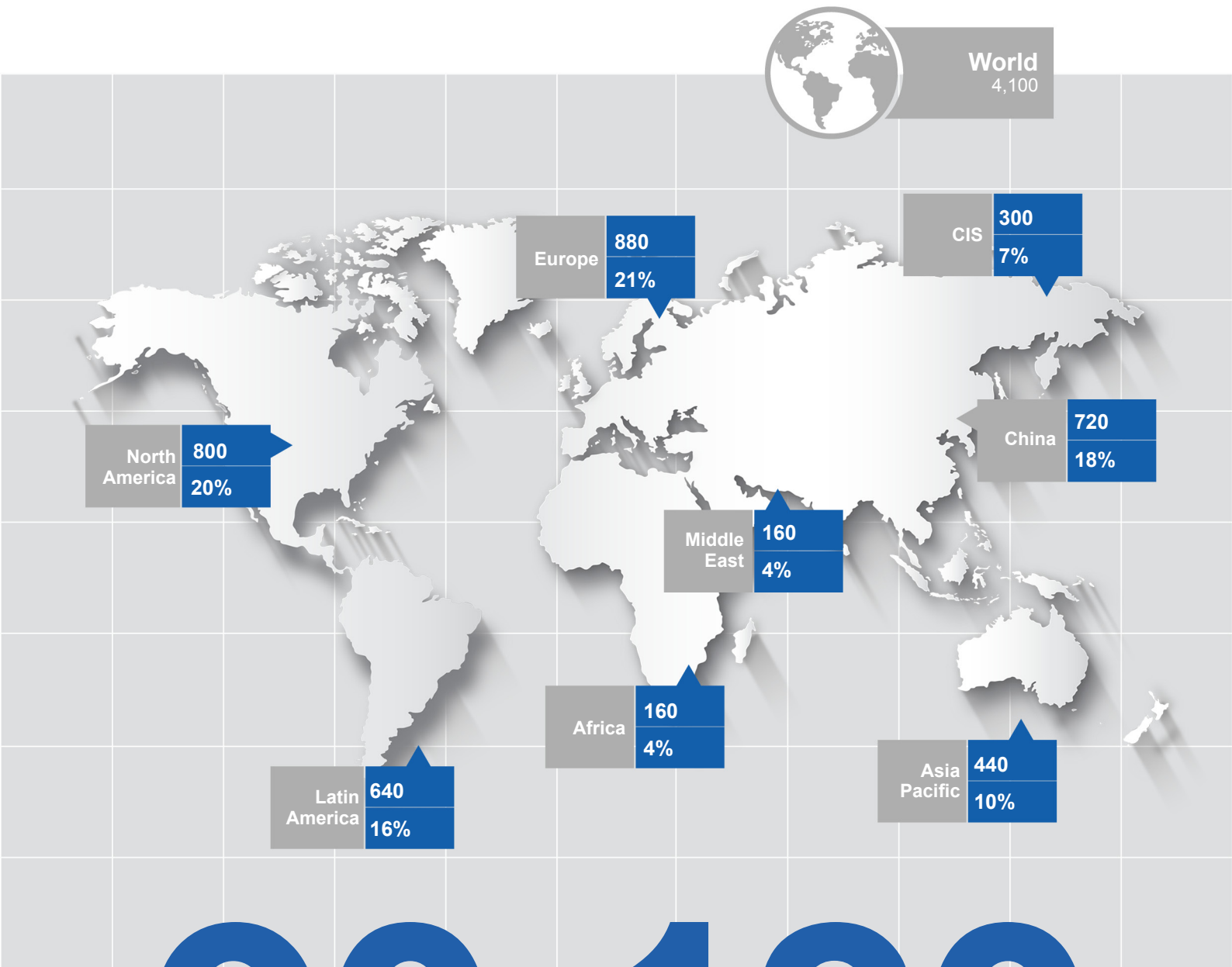
By 2034, 21,550 narrow-body aircraft will be delivered worldwide, 54% of which will replace ageing aircraft. Jets at the top end of the capacity spectrum will continue to dominate future demand, with an increasing focus on the largest aircraft.

70 TO 90-SEAT JETS



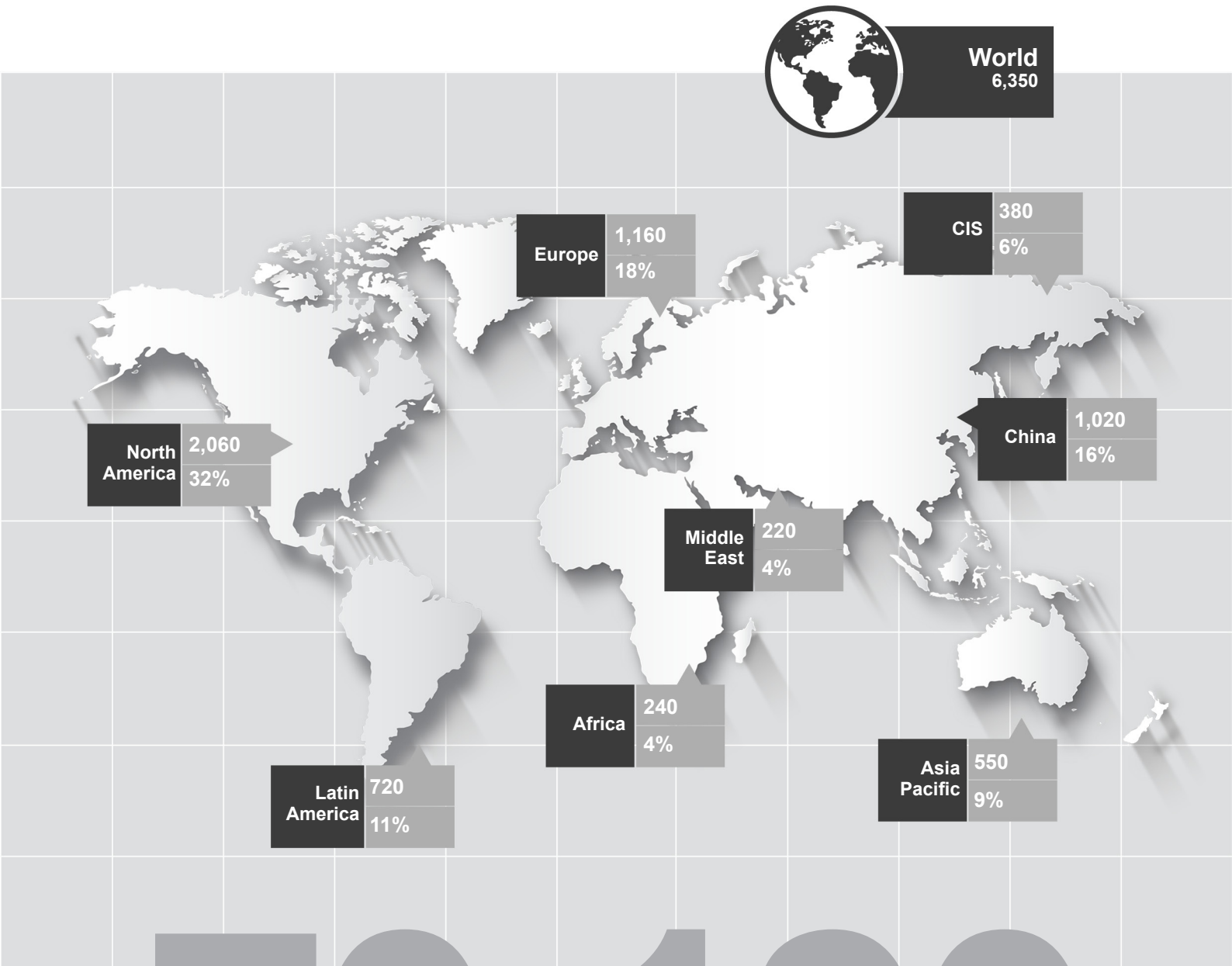
70 TO 90

90 TO 130-SEAT JETS



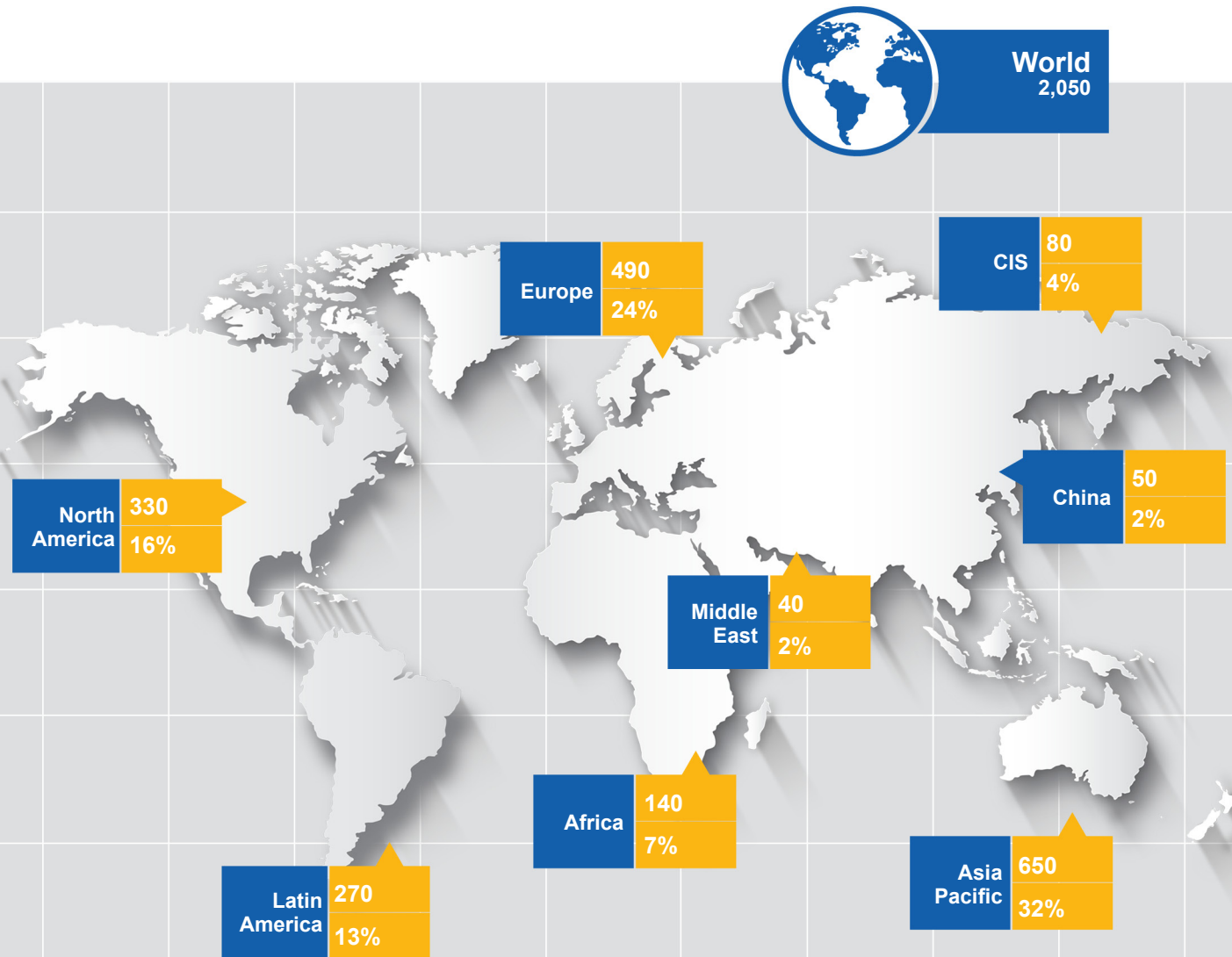
90 TO 130

70 TO 130-SEAT JETS



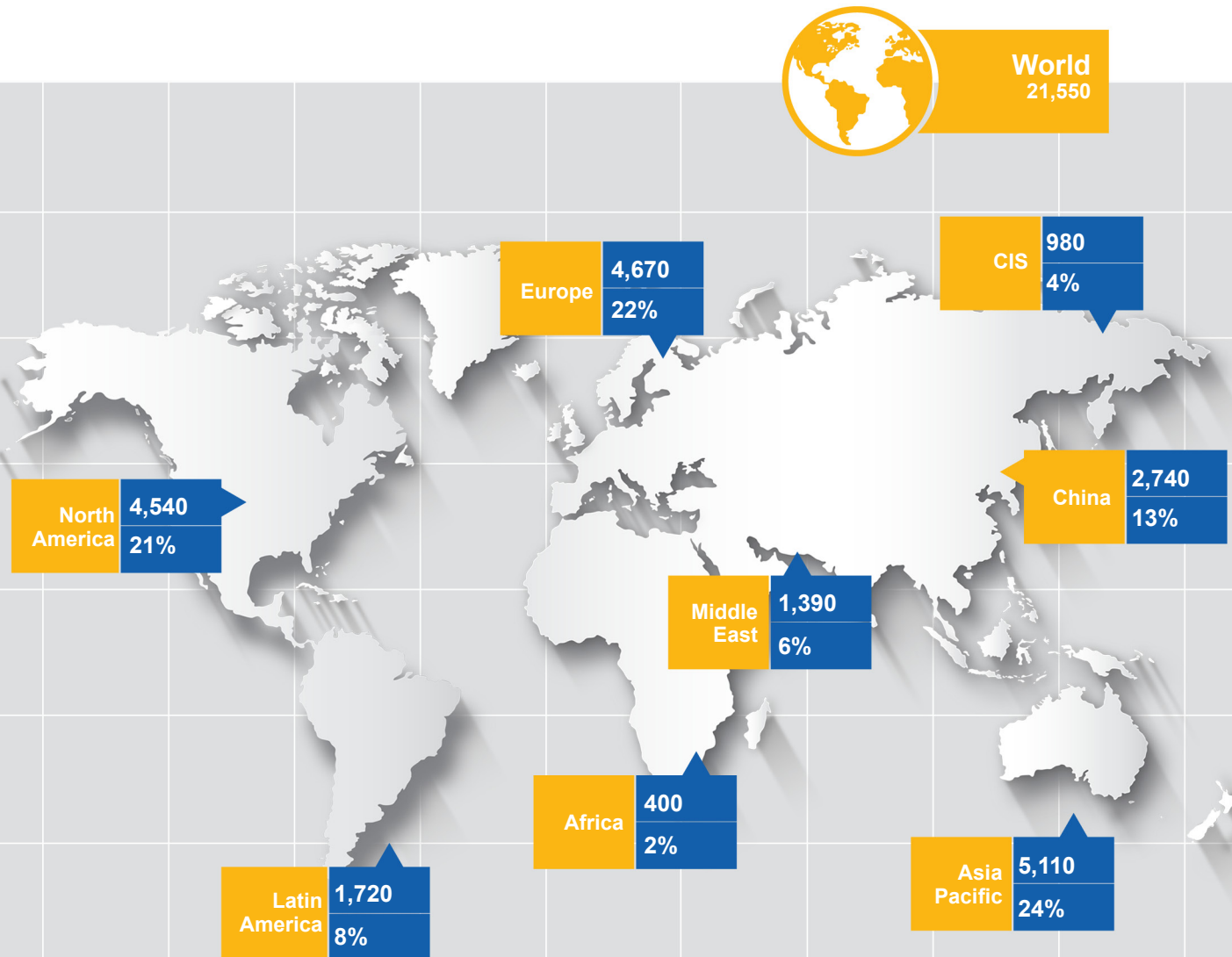
70 TO 130

70+ TURBOPROP SEGMENT



70+

130 TO 210-SEAT JET SEGMENT



130^{TO} 210

GLOBAL TREND S

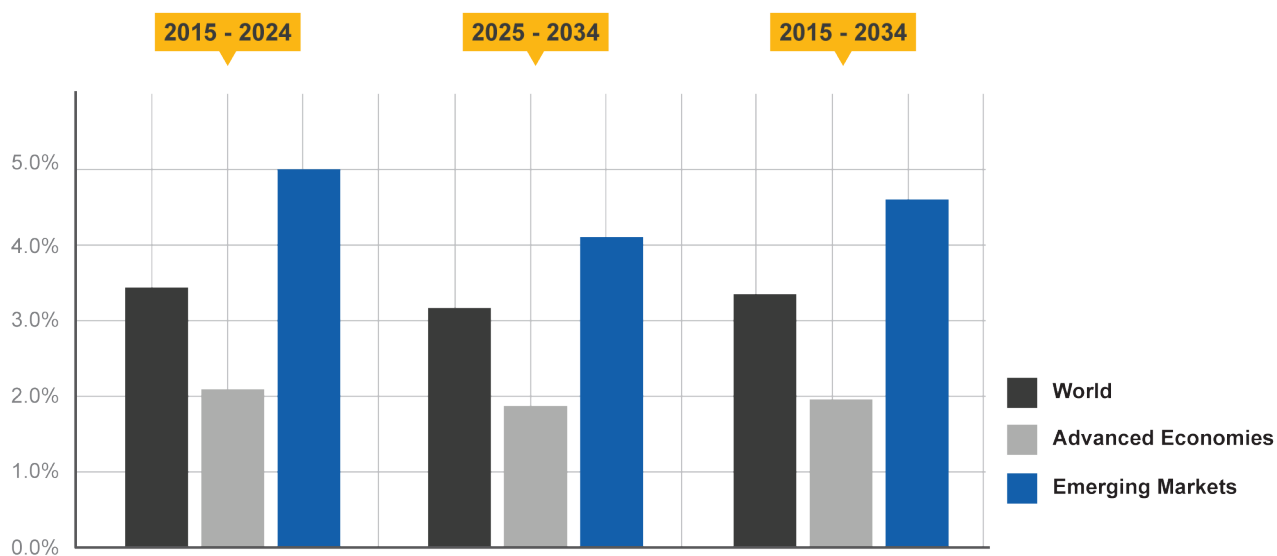
ECONOMIC SCENARIO

Despite multiple divergent trends, the global economy is set to speed up in the few next years. Falling oil prices and more stimulus from key central banks will boost global real GDP growth from 2.7% in 2014 to 2.8% in 2015 and 3.3% in 2016.

The global economy is projected to grow 3.1% annually over the next 20 years, doubling in size by 2034. Continued economic recovery is expected in North America and Europe, averaging 2.5% and 1.8%, respectively. Despite slower momentum, growth in emerging markets will continuously outpace those in advanced economies.

Real GDP Growth Rate

Source: IHS Global Insight



As a result, the relative weights of today's advanced economies will diminish as emerging market economies continue their catch-up. Around 70% of world growth will come from emerging markets, with China and India accounting for one third of that growth.

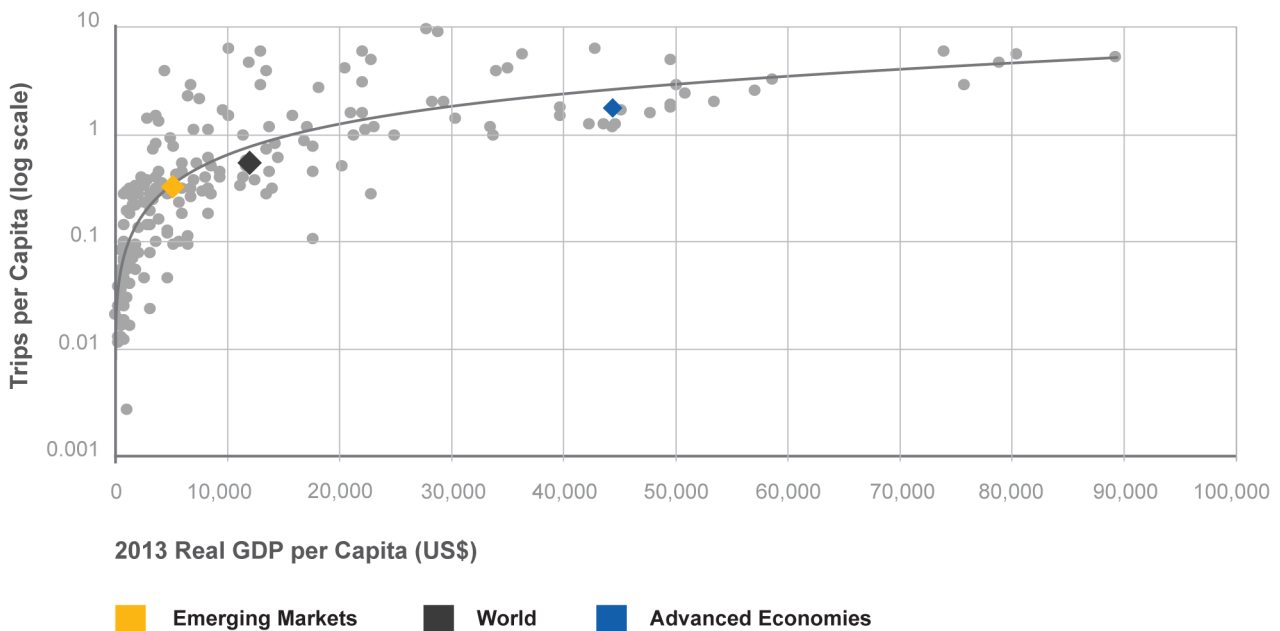
GDP growth is vital to the expansion of air transport demand. Propensity to travel is influenced by personal income. Economic output is one of the main pillars of the airline industry. As wealth makes air travel more accessible, there is considerable potential for air travel growth, especially in emerging markets.

ECONOMIC SCENARIO

Propensity to travel, measured by the economic output per capita of each country, is an indicator of market development. As the most mature market, the USA carries six times more passengers per capita than the world average. Growing economies tend to move along the trend line and contribute to overall worldwide traffic growth.

Propensity to Travel

Source: IHS Global Insight, Sabre, Embraer



DESPITE SLOWER MOMENTUM,
**GROWTH IN EMERGING MARKETS
WILL CONTINUOUSLY OUTPACE
THOSE IN ADVANCED ECONOMIES**

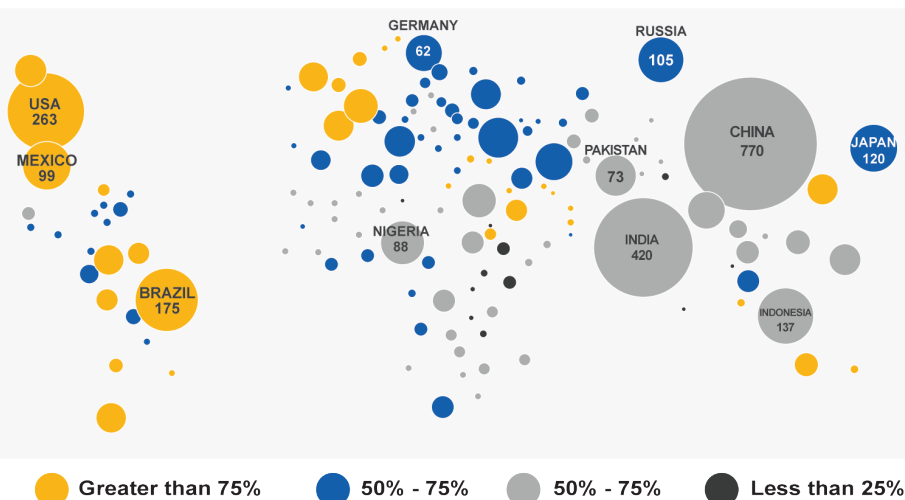
THE URBAN MIDDLE CLASS

Global economic growth has demographic components: the process of urbanization and the emergence of a middle class. Half of the world's population now lives in cities, and it is expected that the urban population as a percentage of the total population will reach 60% by 2034, according to the United Nations. Urbanization is key to the expansion of the airline industry.

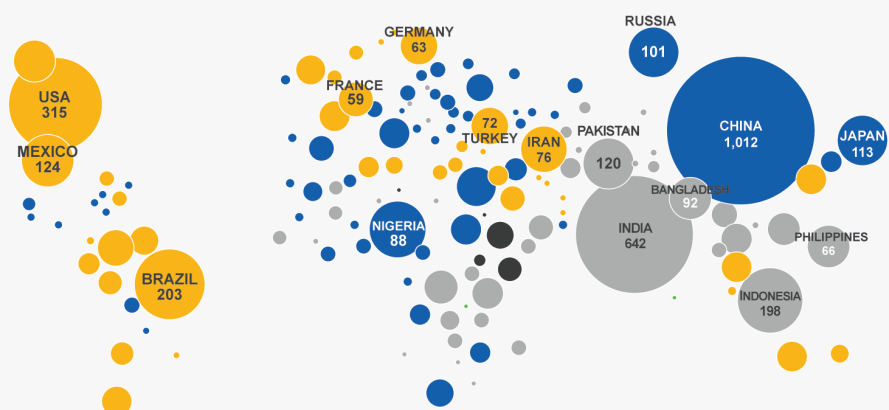
Urbanization (size of urban population in million)

Source: IHS Global Insight, U.N. Department of Economic and Social Affairs, Embraer

2015



2034



Demand for air travel from middle class passengers will result from urban agglomerations. Historically, the expansion of wealth is highly correlated to the growth of private consumption and, therefore, with the propensity to travel. There will be a need to develop regional aviation and generate new opportunities for airlines as they explore low-and medium-density markets. The process of urbanization favors small and mid-sized cities, defined as cities with up to 1 mi inhabitants. Rates of urban growth in emerging markets, especially in Asia, have been fast and represent an engine of air traffic growth.

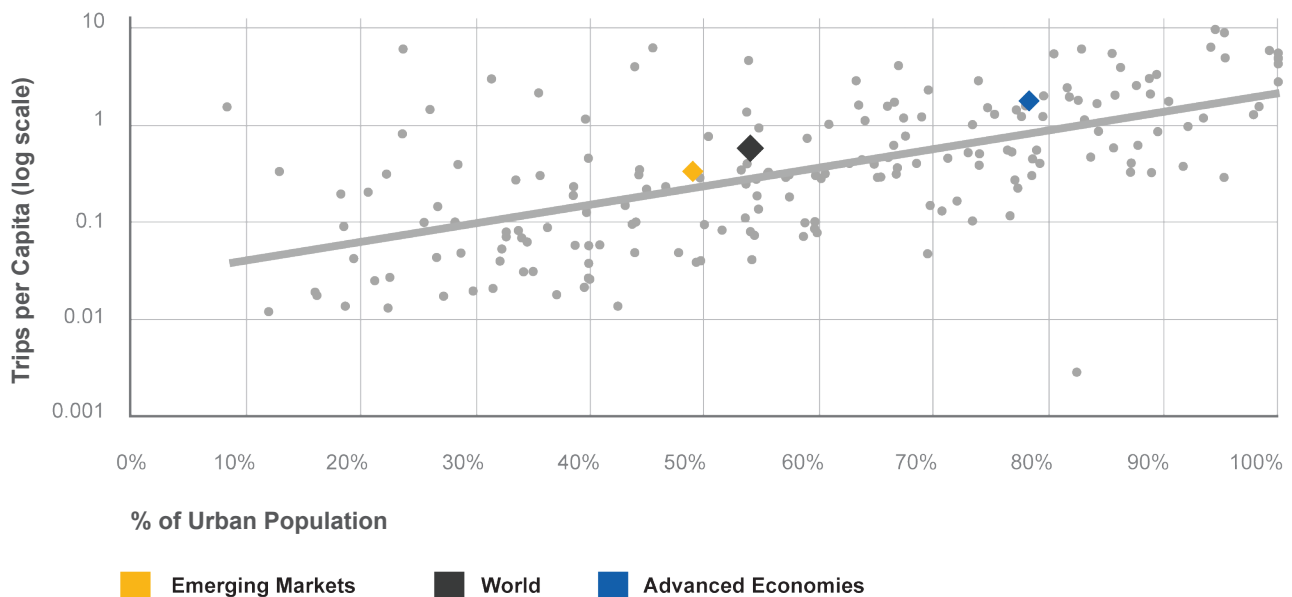
THE URBAN MIDDLE CLASS

The growth pattern in smaller cities results from predominantly faster expansion of the airline industry beyond major financial and industrial centers. Flights to, from and within small and mid-sized cities have increased 6% annually over the last five years, three times higher than flights between large cities.

Midsized and smaller cities will require greater connectivity, including the first-ever non-stop flights between key cities and new, competitive options via hubs. 70 to 130-seat jets are better suited for both of those missions.

Urbanization

Source: IHS Global Insight, U.N. Department of Economic and Social Affairs, Embraer



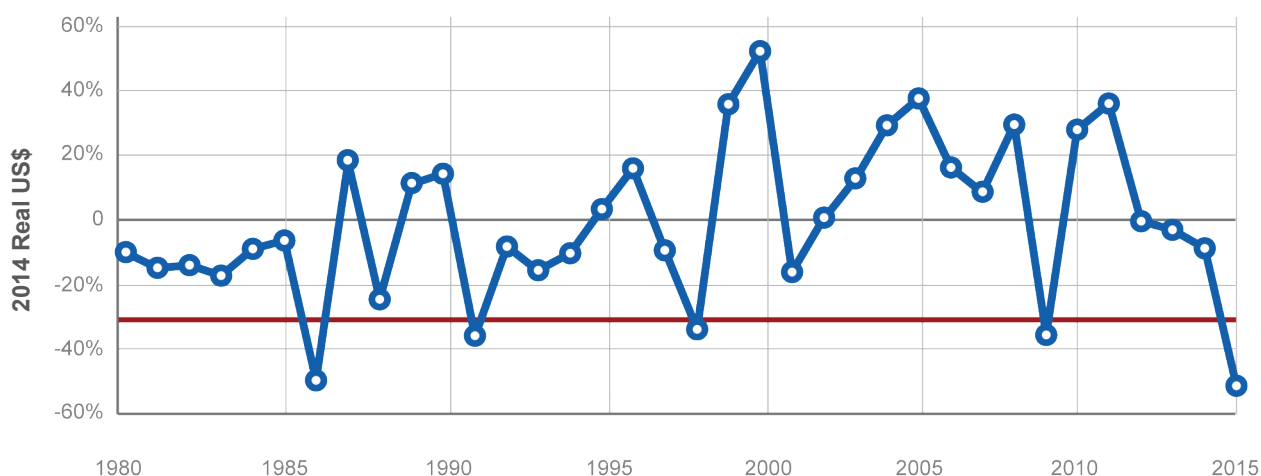
**RATES OF URBAN GROWTH
IN EMERGING MARKETS
REPRESENT AN ENGINE OF
AIR TRAFFIC GROWTH**

FUEL PRICE

In the last 35 years, there were five other episodes of oil price declines of 30% or more in a six-month period. While price slumps usually coincide with major changes in the global economy, the current decline resulted from surging US production coupled with weak demand. Despite the plummeting price of oil in recent months, it is uncertain how long the price will remain low. There are different outcomes for the price forecast and, therefore, the airline industry is still in the wait-and-see mode with no indications that carriers are planning to rethink their strategies.

Annual Change in Brent Crude Oil Prices

Source: EIA, IHS Global Insight



AIRLINES ARE STILL IN THE
WAIT-AND-SEE MODE
WITH NO INDICATIONS OF
STRATEGIC CHANGES

FUEL PRICE

Given the range of possible outcomes, it is important to evaluate the potential effects fuel price volatility have on the airline industry. A baseline scenario in which the price of oil remains at US\$ 70 per barrel in the next few years and then varies in the US\$ 80-100 per barrel range over the rest of the forecast period, impacts air travel demand and financial performance significantly. Given that once-favorable hedging contracts are binding and scheduled to be in place for some time and that the US dollar has strengthened against several currencies, the net effect to the airline industry will be around US\$ 35 bi.

LOWER OIL PRICES RELIEVES THE PRESSURE TO DILUTE COSTS OVER MORE SEATS

Fuel is the largest component of airline operating costs — the industry spent around 35% of its revenue on fuel in 2014 — fuel price variation is key to determining airline profitability. The current fuel price benefits smaller capacity aircraft — their lower overall operating cost relieves the pressure to dilute that cost over more seats. In the medium and long terms, next generation aircraft continue to be attractive with their lower fuel burn. Customers usually make their investment plans based on a long term scenario. E-Jets E2s, in particular, offer more benefits than just fuel burn — they have higher seat capacity (E175-E2 and E195-E2), lower maintenance costs and higher reliability.

The low price of fuel is changing balance sheets but the big-picture strategy — notably fleet planning and capacity — remains largely unaffected for now. Capacity management is the major contributor to financial health. Carriers simply cannot afford to continue to grow all the marginal routes they had added. Some capacity discipline may be lost in the face of lower fuel prices, but the mindset should be focused on debt reduction and shareholder return, rather than market-share battles.

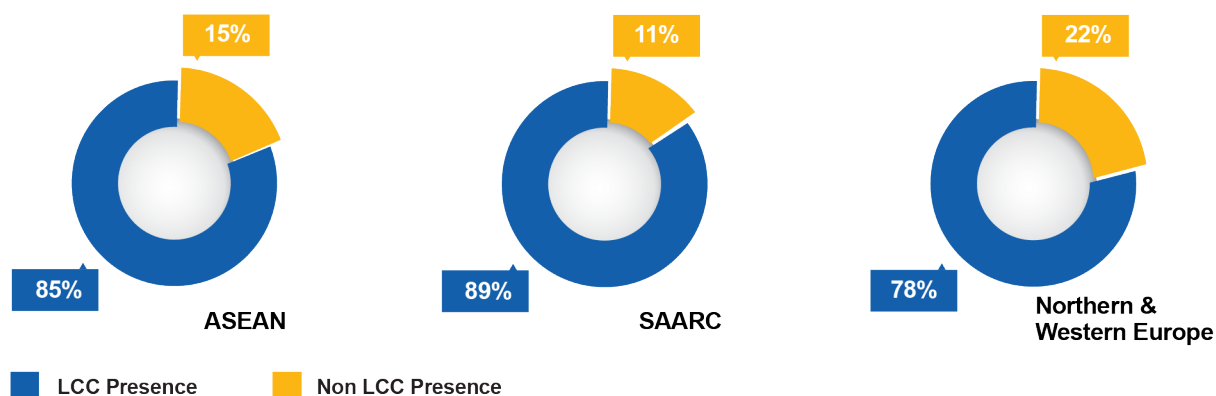
LCC EXPANSION

Air transport growth has been directly linked to Low Cost Carrier expansion. The LCC model focuses on business and operational practices that drive down airline costs, typically with a trend towards larger-capacity aircraft. As seating capacity increases, average fares fall in order to sustain load factors which, more often than not, create operational inefficiencies, lower margins and sub-optimal ROCE.

Some 30% of current worldwide capacity generated by flights up to 2,000 nm are offered by LCCs, around three times higher than the level in 2000. LCCs account for nearly 50% of capacity in ASEAN and SAARC countries and 40% in Europe. Since a large-capacity aircraft is an engine of growth, the natural focus of expansion has been in the highest density markets. LCCs are already present in the majority of markets that have at least 300 daily passengers each way.

LCC Presence in High-Density Markets (at least 300 PDEW)

Source: Innovata, Sabre



As opportunities to explore trunk routes are limited, low density markets are becoming more relevant in LCC networks. Some 50% of all markets served have up to 100 passengers daily each way. The imbalance between aircraft capacity and demand has led to an increase in the number of service cancellations — carriers withdrew from 600 markets in 2014 compared to 450 just three years before. High LCC growth rates cannot be maintained indefinitely. For each market cancellation, LCCs opened only 1.2 markets, down from 2007 when this ratio was 6.0.

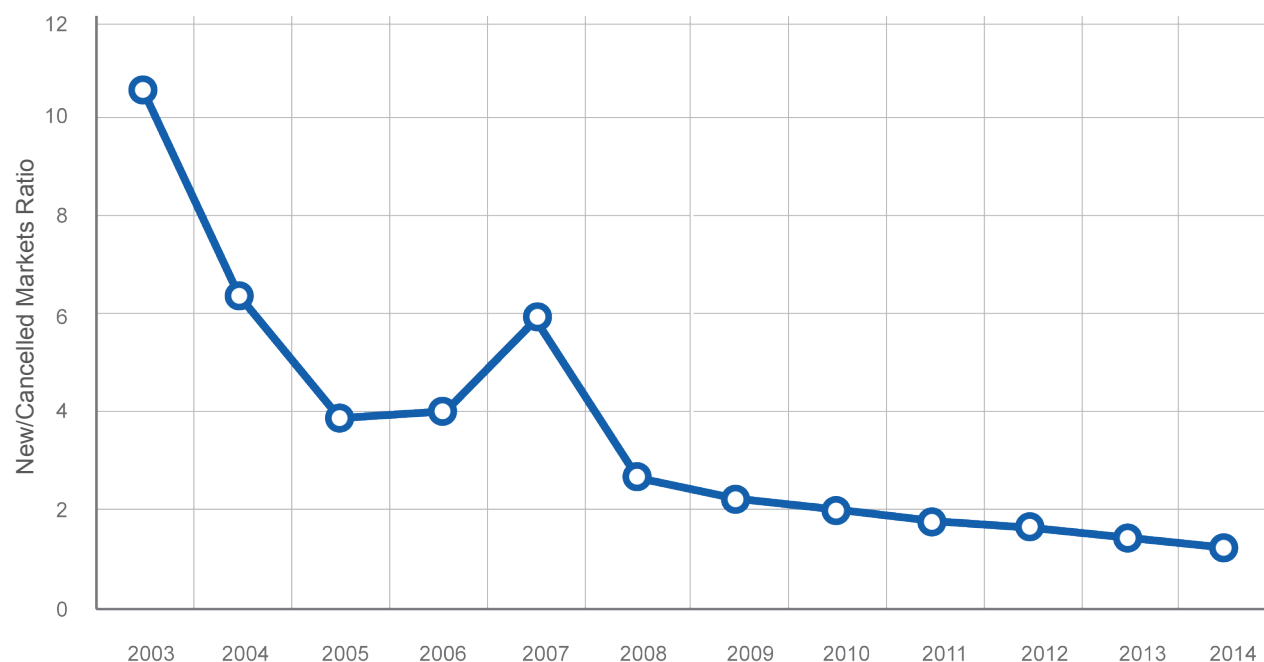
LCC EXPANSION

Some LCCs have already diverged from traditional strategies to adapt to the market landscape. Some of them are flying dual fleet types and operating at primary airports, and some of them are now focusing on customer service experience.

The next frontier could potentially be the deployment of smaller capacity aircraft as LCCs may need to consider new strategies by accessing lower-density markets to sustain growth.

LCC Market Dynamics

Source: Innovata



LCCS ARE ADAPTING TO A CHANGING MARKET LANDSCAPE

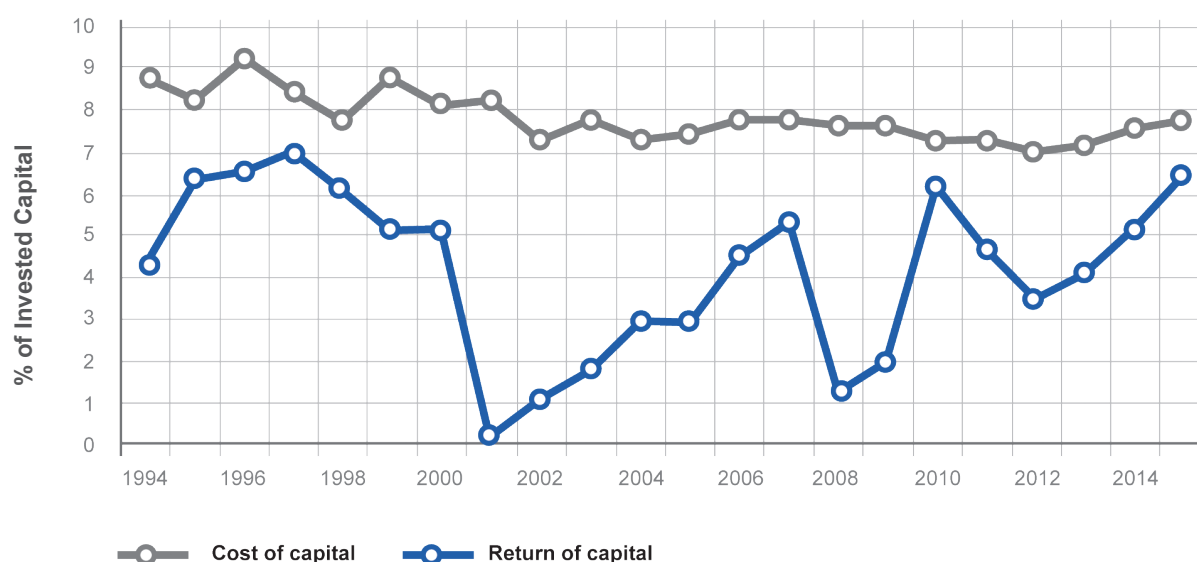
AIRLINE FINANCIALS

Since the financial crisis of 2008-09, a different mindset focused on business sustainability has enabled some airlines to realize higher profits and meet targets for shareholder returns. The industry is gradually moving from a share-driven market strategy to one of disciplined capacity growth with a commitment to strong earnings and return on invested capital.

Yet the airline industry has generated one of the lowest returns on invested capital among business sectors. Even at the peak of business cycles over the past 20 years, on average, financial returns for airlines have never met investors' cost of capital.

Business Efficiency

Source: IATA



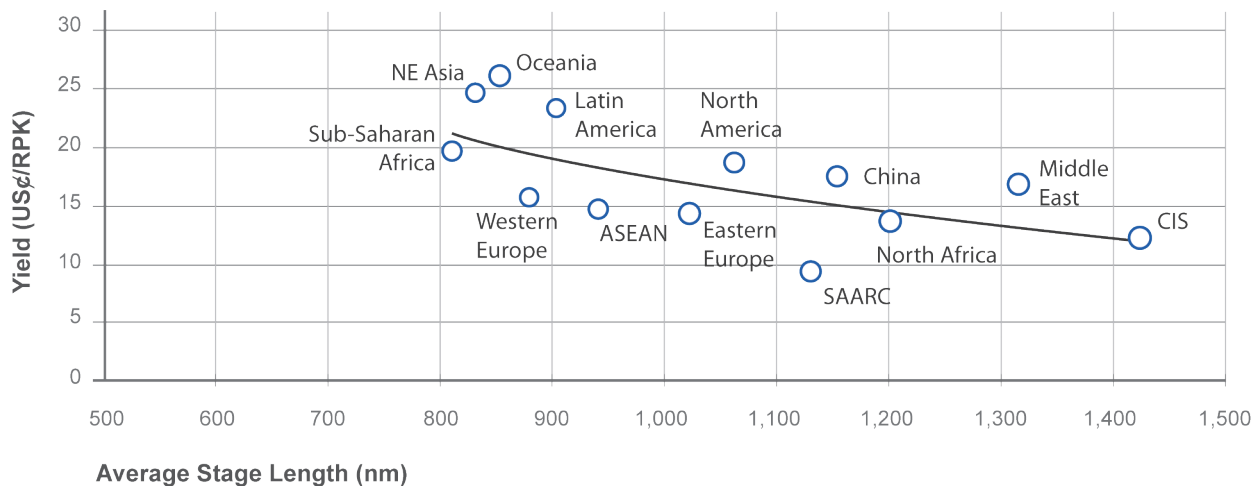
Progress has been made but it remains a continuous process. Among other factors, greater control in matching aircraft capacity to market demand can avoid unsustainable price competition. Resilient profit growth can no longer be sustained solely through cost reduction and/or increases in ancillary revenue. High efficiency of assets is essential to sound financial performance. The over-reliance on large aircraft results in inefficiencies in low- and mid-density markets that, in turn, generally leads to deep fare discounting in order to stimulate traffic and fill excess capacity. This can cause average yields to decline even further which can affect profitability. These are the dynamics of a vicious cycle. Not surprisingly, in a competitive low-fare environment, notably Europe and ASEAN and SAARC countries, larger aircraft introduce surplus capacity that is often sold at widely varying discounts.

AIRLINE FINANCIALS

Using jets in the 70 to 130-seat segment is a viable business strategy since they offer a combination of higher loads and greater profitability. Smaller aircraft can regularly generate higher revenue per seat since they have fewer available seats allocated for low-fare passengers. The jets can earn higher return on employed capital. Flying a right-sized aircraft is the only way to increase unit profit and return on aircraft assets.

Revenue Environment by Origin Sub-Region

Source: Sabre (up to 2,000 nm)



COMMITMENT WITH STRONG
EARNINGS AND **RETURN ON
INVESTED CAPITAL**

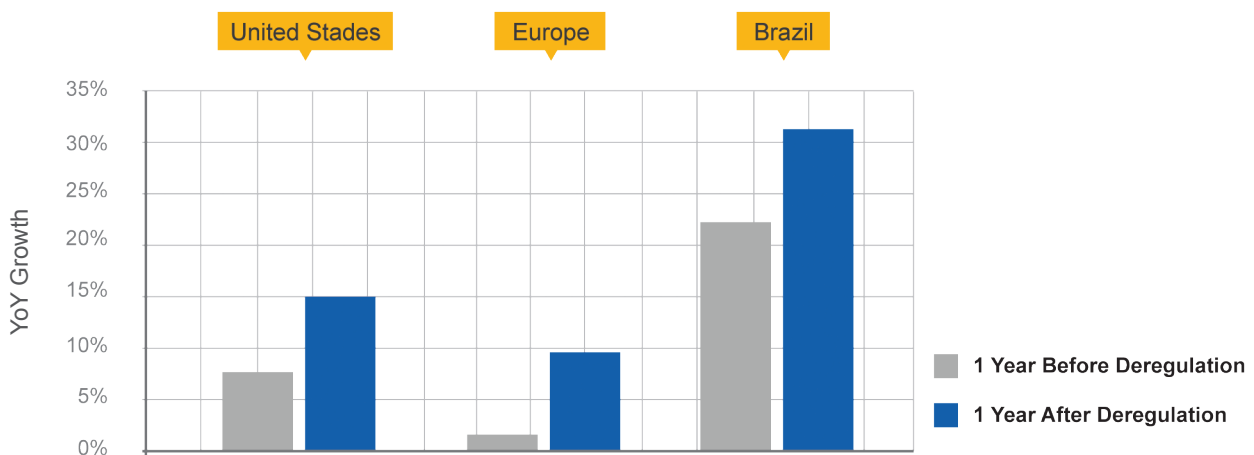
AIR TRANSPORT LIBERALIZATION

Liberalization paves the way for market expansion by removing restrictions on capacity, frequency and pricing. Regions that allowed market forces to govern the airline industry have demonstrated that liberalization can improve connectivity and benefit the economy. According to the Air Transport Action Group (ATAG), a 10% improvement in global connectivity results in an annual 0.07% increase in long-term GDP.

In a number of situations, ATAG found that growth more than doubled after liberalization. In some cases, as in Europe, growth was five times pre-liberalization levels.

Air Transport Demand Growth Rate

Source: ICAO, US DOT, AEA, ANAC, IPEA



Liberalization has promoted the emergence of the hub and spoke system in the USA with one-stop connections between a large number of low and mid-density city pairs.

The relaxation of market access rights in Asia has been concentrated in links between large cities yet operations remain concentrated in trunk markets. Further liberalization is needed to fully realize all the associated benefits. This is expected to be an over-arching trend within the region.

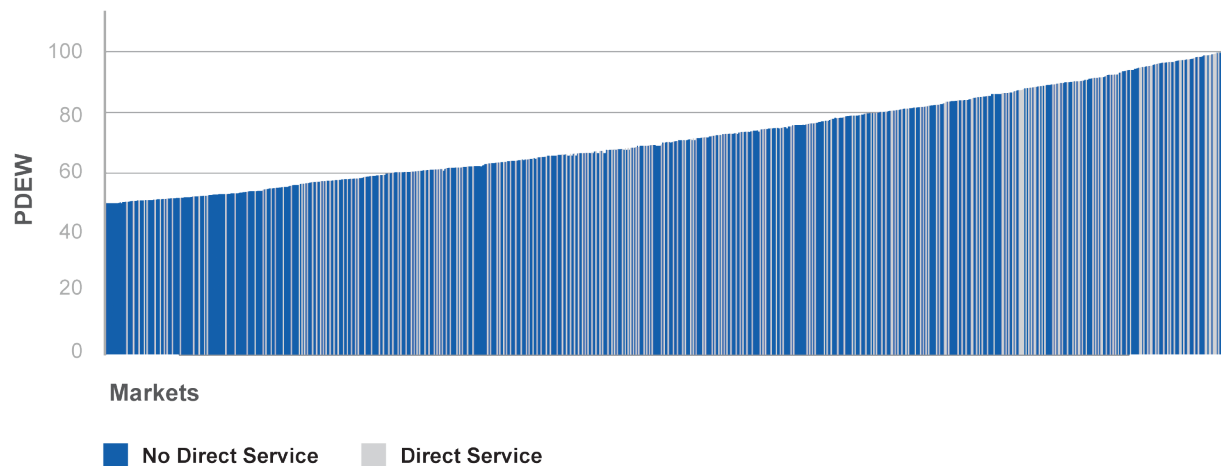
In Asia, the wholesale effects of connecting medium and smaller communities are still to be felt in smaller markets. Market liberalization will play a key role in the development of non-trunk routes as some 70% of low density intra-regional markets have no non-stop flights.

AIR TRANSPORT LIBERALIZATION

Intra-regional liberalization will further encourage airlines to look to secondary markets as the next frontier for expansion. Jets in the 70 to 130-seat segment will be required to sustain carrier growth as the imbalance between market demand and aircraft size limits an airline's ability to expand its network and improve service quality.

O&D City-Pairs (Asian Markets 50-100 PDEWs)

Source: Sabre



SECONDARY MARKETS: NEXT FRONTIER OF EXPANSION

WORLD REGIONS



AFRICA

**RISING URBAN MIDDLE CLASS,
ECONOMIC EXPANSION AND
REGIONAL INTEGRATION**

Despite great diversity with its mix of low, lower-middle, and upper-middle income countries, average economic growth is projected to rise 4.5% annually over the next 20 years.

The fall in oil prices and other commodities has been offset by continued expansion of nontraditional industries, such as financial services, telecommunications, banking, tourism and transportation.

Movement from rural areas to Africa's growing cities is generating substantial domestic demand, including access to air transport, and has the potential to help to spread the benefits of growth to more people.

Africa is the second most populous continent on earth with an estimated 1.1 billion people in 2014, according to IHS Global Insight, spread across a vast area with a poor ground infrastructure. Air transport connectivity is critical for African growth and development.

Africa is home to 12% of the world's people, but it accounts for less than 1% of the global air service market. Africans are turning progressively to air travel. Economic expansion, growing urban middle class and regional integration will be the main drivers of air transport demand which is estimated to grow 5.4% per year by 2034.

KEY FIGURES






| | |
|---------------|------|
| Economy (GDP) | 4.5% |
| Traffic (RPK) | 5.4% |

| SEAT SEGMENT | PROJECTED NEW DELIVERIES 2015-2034 | FLEET IN SERVICE | |
|--------------|--|------------------|------|
| | | 2014 | 2034 |
| Jet 70-90 | 80 | 40 | 80 |
| Jet 90-130 | 160 | 80 | 180 |
| Jet 70-130 | 240 | 120 | 260 |
| TP70+ | 140 | 90 | 170 |
| Jet 130-210 | 400 | 290 | 470 |

INTRA-REGIONAL CONNECTIVITY

Source: Sabre (2014)

-  High - 25+ Destinations
-  Medium - 5-25 Destination
-  Low - < 5 Destinations

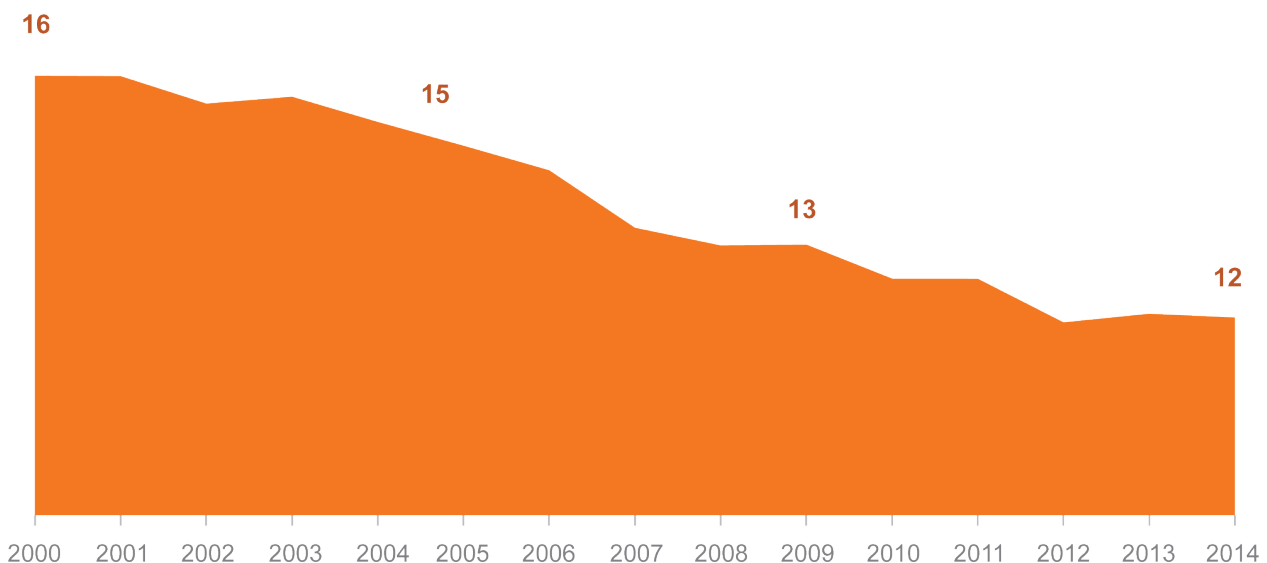
African air carriers have not taken full advantage of liberalization within the continent. The 1999 Yamoussoukro Declaration called for the liberalization of African skies for African airlines by avoiding market restrictions imposed by bilateral air service agreements. The objective of the agreement was to establish and promote a single African regional air transport market. Local carriers need improved network connectivity. There are still ample opportunities within the region although traffic remains concentrated in the largest cities. Of the more than 300 airports operating in 2014, only 8 connected 25 or more cities while 240 airports linked 5 cities or fewer.

Some 90% of city pairs have traffic volumes of up to 300 daily passengers yet the current fleet is comprised of large capacity aircraft — around 70% of the aircraft in the single-aisle jet fleet have more than 130 seats. Nearly 55% of intra-regional markets do not have direct flights and some 60% of all non-stop markets within the region are served with fewer than one daily frequency. This is a clear indication not only of the inability to expand air service, but also of the mismatch between aircraft capacity and existing market demand. With right-sized aircraft, such as the E-Jets family, African carriers would be able to offer a better combination of capacity and frequency in low and mid-density markets.

Further opportunities lie in the replacement of ageing fleets with new-technology aircraft. Airlines on the continent have recognized those benefits. The average age of the African fleet has declined 30% since 2000 at the same time as the share of newer generation aircraft increased from 23% to 73%.

Average Aircraft Age

Source: Ascend (70 to 210-seat Jet)





ASIA PACIFIC

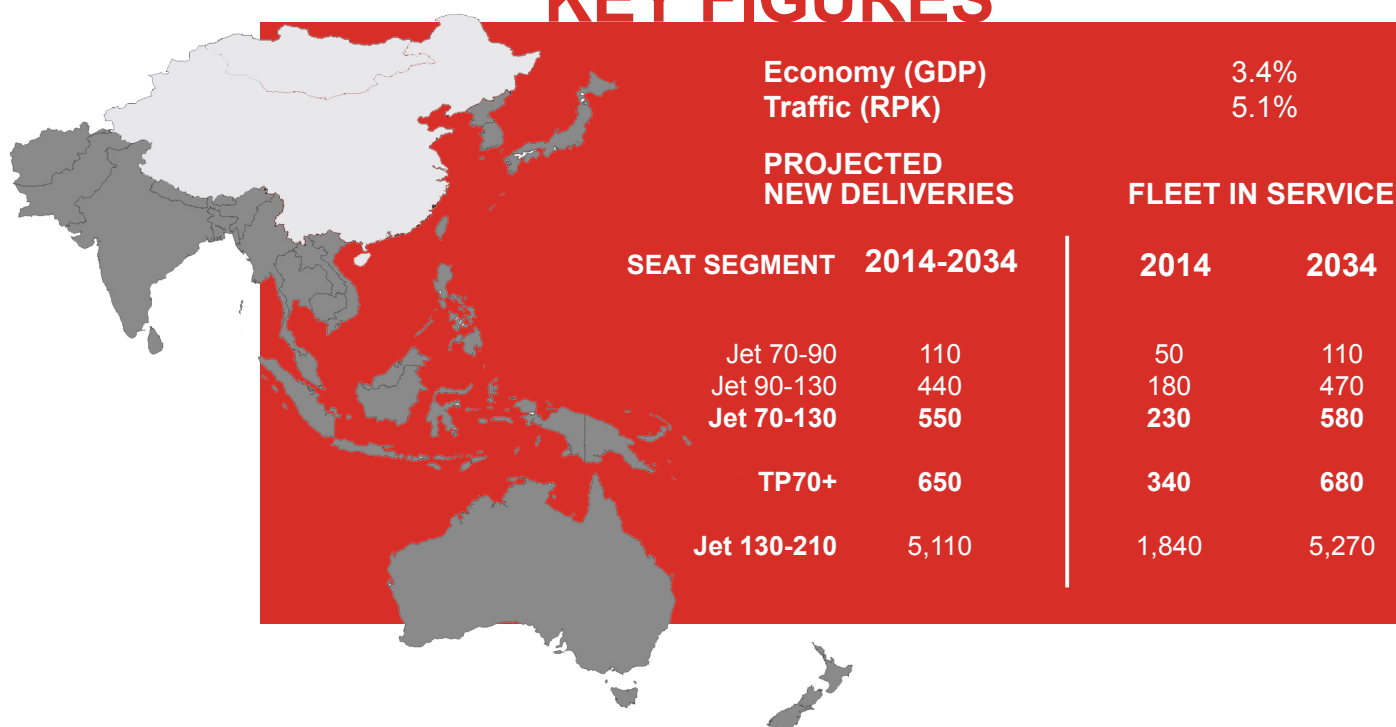
**LARGE AIRCRAFT,
LOW YIELDS, ELUSIVE
PROFITABILITY**

Asia Pacific has been experiencing rapid social and economic development in recent decades. The region's above-average economic expansion, with an annual GDP growth rate of 3.4% forecast for the next 20 years, combined with increasing urbanization and changing demographic patterns will result in higher household incomes and increased discretionary spending — an evolution that will change consumer buying behavior.

The region's economic expansion will be spurred not only by Japan and India, but also by Australia, Indonesia, Malaysia, the Philippines, South Korea, Thailand, Taiwan and Vietnam. Growing trade links between countries within the region will promote local economic prosperity and drive the need for better air transport links. Greater affordability and accessibility will stimulate demand for air travel in established markets and allow airlines to expand in low and mid-density markets.

At 7.1%, the annual growth in demand for air transport has been robust over the last five years. The trend is expected to continue over the next 20 years when the market will grow 5.1% annually.

KEY FIGURES

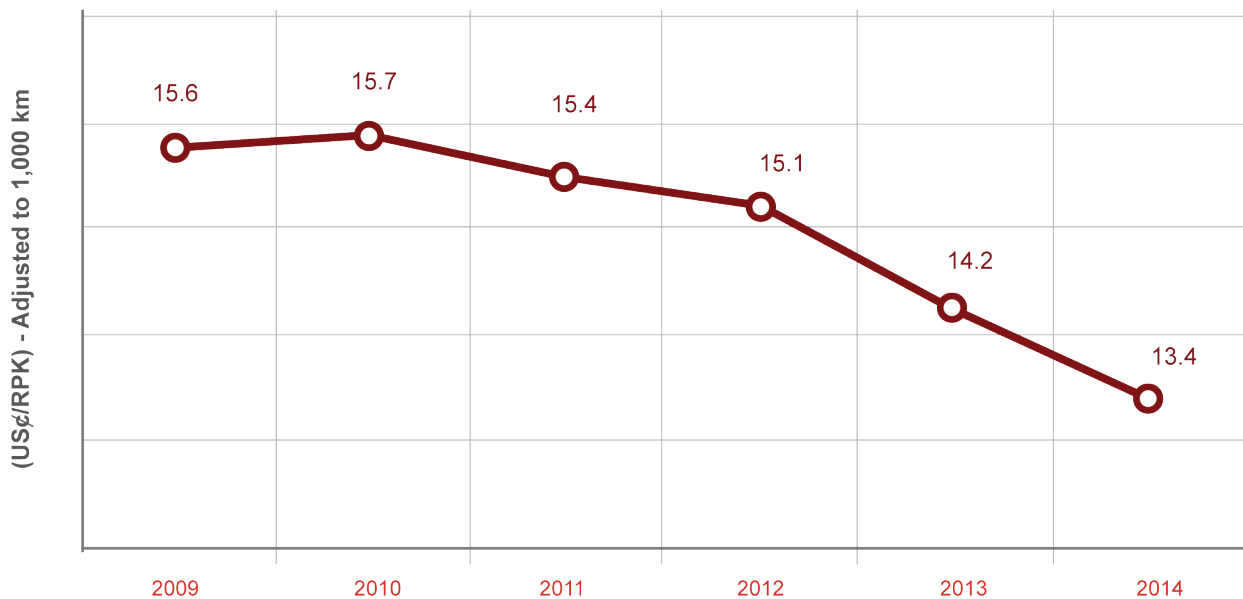


The rise of Low Cost Carriers was a direct and natural response to the surge in demand for air travel in the region in the last decade. The large inflow of capacity has influenced ticket prices and created a new dynamic: a vicious cycle in which lower yields force lower unit costs, leading to larger aircraft that add more capacity which, in turn, lower load factors that promote even more fare discounting. As a result, yields, as measured by US ¢ per revenue passenger kilometer, have been declining. Profitability remains elusive for Asian carriers facing the challenge of surplus capacity even though most economies across the Asia Pacific region continue to grow.

The marginal cost of flying an extra seat is often higher than the lower fare it generates and ever-lower fares induce the need for ever-lower costs.

Real Yield Evolution Asian Airlines

Source: Airlines, PaxIS



Ancillary revenue has become a hot topic for the Asian airline industry as carriers seek to cope with downward pressure on revenue from fare discounting. Unbundling services is welcome, but it should not be part of the core business strategy. Reducing fares to offset falling load factors has its limits and focusing primarily on ancillary revenues is not a sustainable business strategy. There are already signs of saturation - despite 7.0% RPK growth in 2014, carriers in the region earned a net margin that averaged only 1.6%.

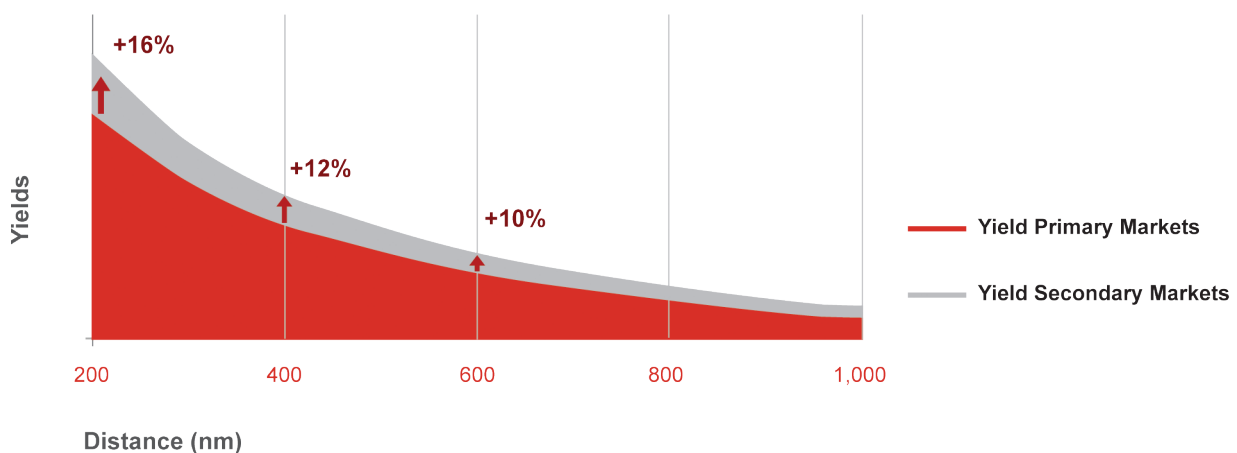
Right-sized aircraft in the 70 to 130-seat segment usually command higher average yield. They allocate fewer seats to low-yield passengers and therefore maximize revenue per seat and load factor in highly competitive markets.

Additionally, the aircraft capacity segment offers the potential to serve low and mid-density markets and generate premium yields. Asia Pacific intra-regional flying is comprised mostly of low and mid-density markets. Some 72% of city pairs have volumes of up to 300 daily passengers. Secondary markets are ripe with opportunities to enhance yield with the right aircraft capacity.

In this context, the 70 to 130-seat segment will be key to sustaining Asian airline profitability. The aircraft increase asset performance, build shareholder value and give carriers access to a wider range of markets.

Yield Opportunity in Secondary Markets

Source: Airlines, PaxIS (2014 yield)
 Secondary Markets: Less than 300 PDEW
 Primary Markets: More than 300 PDEW





KEFEI

**ACCESS TO AIR TRAVEL TO
GROW TWICE AS FAST IN
SECOND AND THIRD-TIER
CITIES, ESPECIALLY IN
THE COUNTRYSIDE**

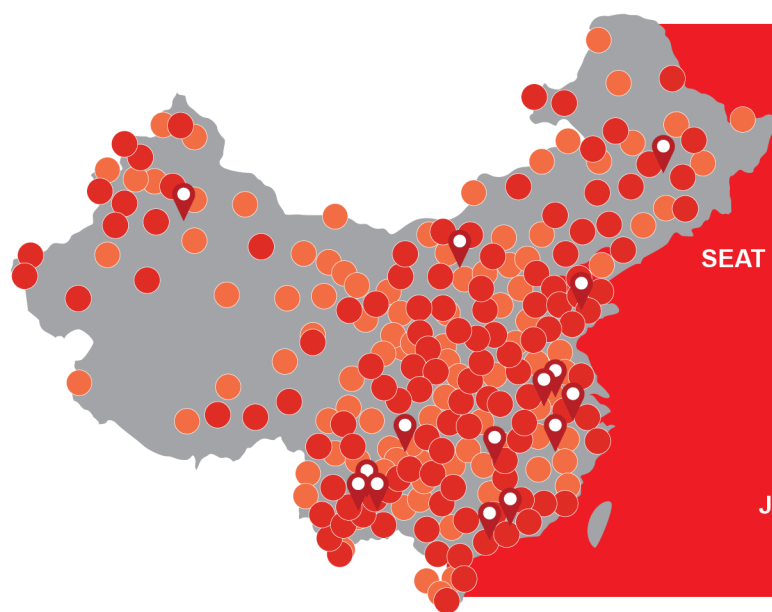
The Chinese economy continues to show signs of gradually slowing as reflected in lower GDP growth. However, as economic drivers shift from manufacturing to services on the supply side, and from investment to consumption on the demand side, the long-term outlook will remain strong at 5.6% annually by 2034. The fast-growing middle class is poised to become the main pillar of consumer spending, including air travel. The upper strata of the Chinese population will account for 80% of urban consumption in the future.

In the coming years, China is set to become the world's largest economy and will be home to the world's biggest domestic aviation market. This will lead to 7.0% annual growth for air travel over the next 20 years, the highest in the world.

A growing economy and stronger demand for air transport has generated a need to improve air services. China's "Go West" strategy, designed to develop the economies of the west, remains the government's top priority. Government policies are key to socio-economic development and to promote efficiency and profitability throughout the country.

The Chinese aviation industry has also been reaping the benefits of government policies. The CAAC plans to construct more regional airports in order to improve the operation and management of the air system. It is also encouraging the introduction of regional aircraft by offering subsidies of up to RMB 1 billion per year to the regional aviation industry. The current 5-year plan identifies 70 new airports and feasibility studies for 28 more. Access to air travel will grow throughout the country but it will increase twice as fast in second and third-tier cities, especially in the countryside, compared to the largest cities.

KEY FIGURES



Economy (GDP)
Traffic (RPK)

5.6%
7.0%

PROJECTED
NEW DELIVERIES

FLEET IN SERVICE

SEAT SEGMENT

2015-2034

2014

2034

Jet 70-90

300

10

300

Jet 90-130

720

80

720

Jet 70-130

1,020

90

1,020

TP70+

50

0

50

Jet 130-210

2,740

1,920

2,900

EXPANSION OF AIR
SERVICE COVERAGE

Source: CAAC

- Existing Airports
- Planned Airports
- 📍 Start-up Airlines

Regulations for new entrants are being relaxed and the speed of growth of private airlines is being checked. As of December 2014, some 16 start-ups had recently launched or announced their future plans.

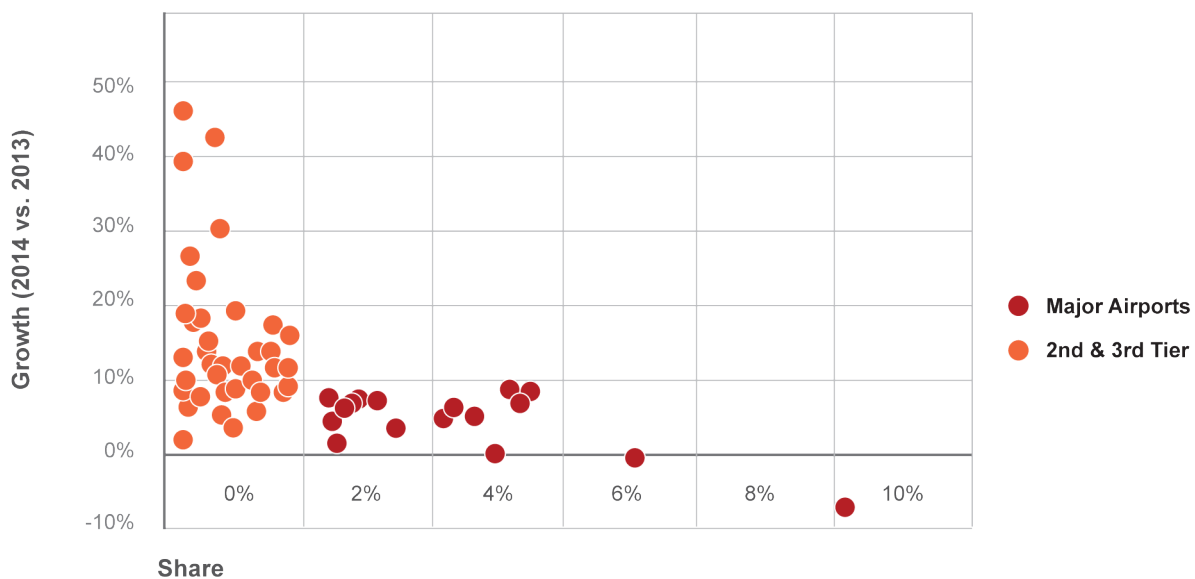
In the light of the development of Western and Central China, start-up airlines will exploit the opportunity to quickly grow from small bases where there are sufficient time slots and subsidies from local governments.

Opportunities abound: 72% of China's domestic market consists mostly of low and medium-density demand (between 25 and 300 PDEW) and the top 20 airports account for two-thirds of domestic traffic. Given the high proportion of aircraft with more than 130 seats in the Chinese fleet, it is not surprising that only 25% of these markets have more than two flights per day and 55% of all markets do not offer any option for same day return travel.

As the country becomes more integrated and major airports congested, airlines will be further encouraged to look to secondary markets as the next frontier for expansion.

Airport Traffic Growth Rate

Source: Sabre



Efficient regional integration requires both smaller aircraft and a fleet that is flexible to serve a range of missions. Jets in the 70 to 130-seat segment can effectively improve connectivity in low and mid-density markets and complement narrow-body flights during off-peak hours on trunk routes. Overall, the aircraft serve to improve operating efficiency and profitability.



**STRONG PERFORMANCE OF
INTRA-REGIONAL AVIATION
OPENING OPPORTUNITIES
FOR RIGHT-SIZED AIRCRAFT**

Accounting for 75% of all CIS economic output, Russia's GDP suffered two shocks in 2014. First, geopolitical tension with Ukraine led to international economic sanctions. Second, the fall of the price of oil hit the economy hard since Russia is one of the biggest oil producers in the world.

Despite the turmoil, Russia weathered a recession in 2014 but the effects are expected to be reflected mainly in 2015 and 2016 when the economy is projected to shrink by 5.0% and 1.4%, respectively. The overall growth prospect for the next 20 years is forecasted to be 2.4% annually, well below the expected rate for emerging markets, which is 4.6% annually by 2034. The vulnerability of CIS countries is principally due to structural problems. Improvements are needed in the financial sector, with the labor force, with energy and with the transportation infrastructure and governance.

The vastness of the CIS hampers regional integration and the implementation of common economic and trade policies and legislation among member states. Consequently, intra-regional aviation, the fastest growing mode of transport, is key to improving links between CIS cities. Air transport liberalization will be one of the main engines of growth over the next years and is projected to grow demand 4.8% over the next 20 years, slightly below the world average.

KEY FIGURES

Economy (GDP)
Traffic (RPK)

2.4%
4.8%

PROJECTED NEW DELIVERIES

SEAT SEGMENT

2014-2034

| | |
|--------------------|------------|
| Jet 70-90 | 80 |
| Jet 90-130 | 300 |
| Jet 70-130 | 380 |
| TP70+ | 80 |
| Jet 130-210 | 980 |

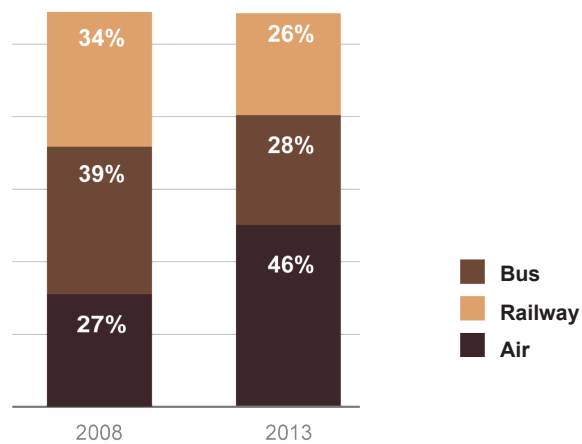
FLEET IN SERVICE

| 2014 | 2034 |
|------------|--------------|
| 40 | 100 |
| 150 | 300 |
| 190 | 400 |
| 20 | 100 |
| 510 | 1,080 |

To support that growth, CIS countries have changed their transport strategy and focused on the domestic market to strengthen ties within the region, to make air travel more accessible to more people and to provide global connections. Those changes include air transport liberalization and investments in the aerospace industry, including replacement of the current fleet which is composed mainly of inefficient and old technology aircraft.

Passenger Turnover by Mode (Pax-km)

Source: Russia Federal State Statistic Service

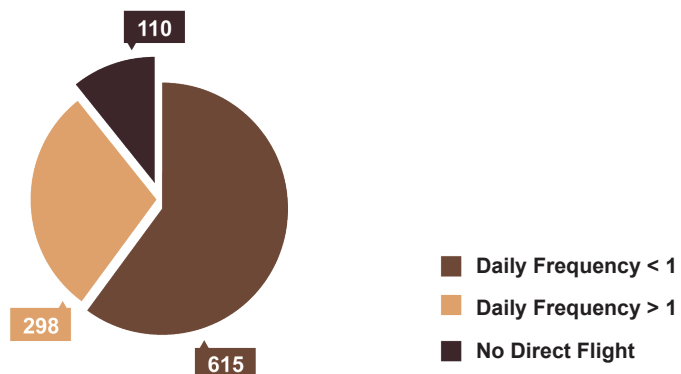


New 70 to 130-seat aircraft are able to better match seat capacity to variations in demand and offer more connectivity by increasing frequencies and opening new markets. Carriers with this size of jets are already introducing these improvements. In 2014, newer aircraft accounted for 27% of the Russian fleet in service with an average age of two years. Embraer jets accounted for the majority of those aircraft.

E-Jets are well positioned for opportunities in the vast CIS region. An analysis of the 1,000 O&D markets served in 2014 shows 90% had direct flights yet 60% had fewer than one daily frequency. Half of the markets are ideally suited to E-Jet operations (non-stop flights up to 2,000 nm and fewer than 120 daily passengers).

Market Profile

Source: OAG, Innovata





Free for all


**CONTINUED RPK GROWTH BUT
WEAK YIELD ENVIRONMENT
AND LOW MARGINS**

Europe has been a top risk for the world economy for years. The economic backdrop was sluggish in 2014 and remains fragile in 2015. Real aggregate GDP growth will pick up only mildly from 1.5% in 2014 to 1.7% in 2015. The region's economy is projected to grow 1.8% annually over the next 20 years.

Despite the relentless headlines about sluggish economic performance, debt crises, bailouts, unemployment, deflation and recession, the region's airline industry remains strong. The recent plunge in the price of oil is a bright spot for Europe, which is a net oil importer. The drop will provide some savings to consumers and businesses and help to grow demand for air travel which is expected to be 3.9% annually by 2034. Margins for European airlines have been under-performing relative to other sectors. According to IATA, the region's airlines produced the world's second lowest net margin in 2014, only higher than the African airline industry.

KEY FIGURES

KEY FIGURES



| Economy (GDP) | | 1.8% | |
|-----------------------------|-----------|------------------|-------|
| Traffic (RPK) | | 3.9% | |
| PROJECTED NEW DELIVERIES | | FLEET IN SERVICE | |
| SEAT SEGMENT | 2014-2034 | 2014 | 2034 |
| Jet 70-90 | 280 | 210 | 260 |
| Jet 90-130 | 880 | 340 | 880 |
| Jet 70-130 | 1,160 | 550 | 1,160 |
| TP70+ | 490 | 250 | 550 |
| Jet 130-210 | 4,670 | 2,480 | 4,220 |

The poor financial performance is not the result of weak traffic growth or load factors. There is no obvious relationship between profits and loads since RPK growth was solid at 5.8% in 2014 and the aggregate load factor was over 80%.

However, pricing power for European airlines has declined significantly as supply in most regions has consistently outpaced demand. Yields have been decreasing 2% annually over the last 5 years. According to Bank of America Merrill Lynch, a +/- 1% change in yield moves EBIT an average of 16% across the industry.

Airlines are already questioning the sustainability of this scenario. Traditional full-service carriers restructured in order to improve efficiency, reduce costs and secure profitability.

Sensitivity To A +/-1% Change In Yield

Source: BofA Merrill Lynch Global Research, based on Bloomberg Consensus

| | EBIT 2015 (mn) | Impact to EBIT (mn) | % of EBIT |
|-----------------|----------------|---------------------|-----------|
| IAG (€) | 1,897 | 209 | 11% |
| Ryanair (€) | 944 | 56 | 6% |
| Lufthansa (€) | 1,479 | 305 | 21% |
| easyJet (£) | 641 | 48 | 7% |
| AF-KLM (€) | 756 | 257 | 34% |
| Norwegian (NOK) | 929 | 206 | 22% |

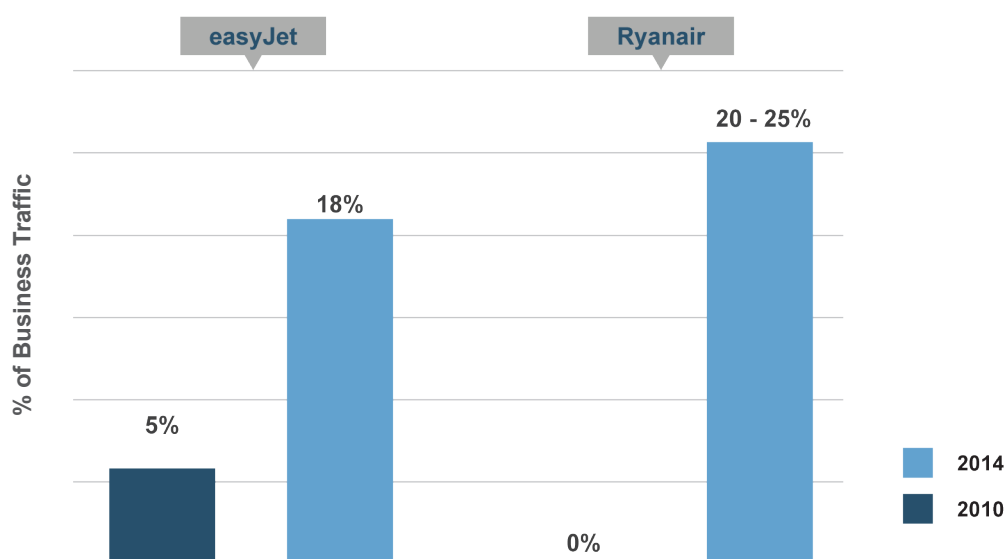
The focus on long-haul premium passengers is now close to absolute which, in turn, reinforces the importance of jets in the 70 to 130-seat segment to feed international flights. The aircraft offer both choice and value to consumers since the airplanes can access a huge number of airports and have the range to fly to distant destinations with high frequency. Connecting traffic will largely remain the core business of the major international carriers in Europe.

In parallel, some LCCs may have reached the economic limits of the business model. The focus on cost reduction and the reliance on ancillary revenue in order to implement a price leadership strategy is limited. Since ticket revenue alone does not cover unit cost, ancillary revenue has been key to healthy LCC financial performance.

Since the growth potential of ancillary revenue is finite, the focus is now turning to increasing yields. In this context, there is a growing willingness among LCCs to invest in passenger-focused solutions. Business travelers are key to generating higher yields, making them an ideal target. Differentiation of services to attract business passengers is an option that will require right-sized aircraft in the 90 to 130-seat segment, such as the E190 and E195.

% of Business Traffic at LCCs

Source: BofA Merrill Lynch Global Research



DEPARTURES

| Destination | Flight |
|-------------------|--------|
| GOIANIA | 004 |
| CAMPO GRANDE | 004 |
| FOZ DO IGUAÇU | 001 |
| JUAZEIRO DO NORTE | 008 |
| RIBEIRÃO PRETO | 022 |
| UBERABA | 022 |
| UBERLÂNDIA | 028 |
| CURITIBA | 002 |
| BELEM | 008 |

LANEIA

**AVIATION INFRASTRUCTURE
AND EXPANSION BEYOND
MAJOR CENTERS TO
SHAPE AIR TRANSPORT**

Latin America has been experiencing a period of sub-par economic growth, slowing from 2.7% in 2013 to 0.8% in 2014 and 2015. Lower commodity prices and weaker currencies at the outset of 2015 will hold back economic recovery in the short term.

However, prospects for mid and long-term growth remain positive. Consumer and investor confidence will gradually return, leading to stronger domestic demand in the second half of the forecasting horizon. The region will report solid economic annual growth of 3.4% over the next 20 years.

Thanks to consumers in a growing middle class ready to take their first flight, Latin America is ripe for air transport. Comparing the region with a mature air travel market like the USA reveals enormous potential for growth: Latin America has 0.4 airline passengers per capita, a figure that is one sixth of the USA.

Growing personal disposable income is fueling demand for air travel. That demand is estimated to increase by 5.9% annually over the next 20 years, which continues to outperform the 4.9% global average traffic growth.

Along with the emergence of the middle class, new investments in aviation infrastructure and regional integration will shape the way air transport will grow in the coming years. Among other investments, the Brazilian government announced a plan to expand regional aviation with the goal of having 95% of the population accessing regular air service within a 100 km of a locale.

KEY FIGURES



| | |
|---------------|------|
| Economy (GDP) | 3.4% |
| Traffic (RPK) | 5.9% |

| SEAT SEGMENT | PROJECTED NEW DELIVERIES | FLEET IN SERVICE | |
|--------------|-----------------------------|------------------|-------|
| | 2015-2034 | 2014 | 2034 |
| Jet 70-90 | 80 | 30 | 80 |
| Jet 90-130 | 640 | 280 | 660 |
| Jet 70-130 | 720 | 310 | 740 |
| TP70+ | 270 | 90 | 340 |
| Jet 130-210 | 1,720 | 840 | 1,570 |

**BRAZIL DOMESTIC MARKET PENETRATION –
NEW MARKETS IN 2014**

Source: Innovata

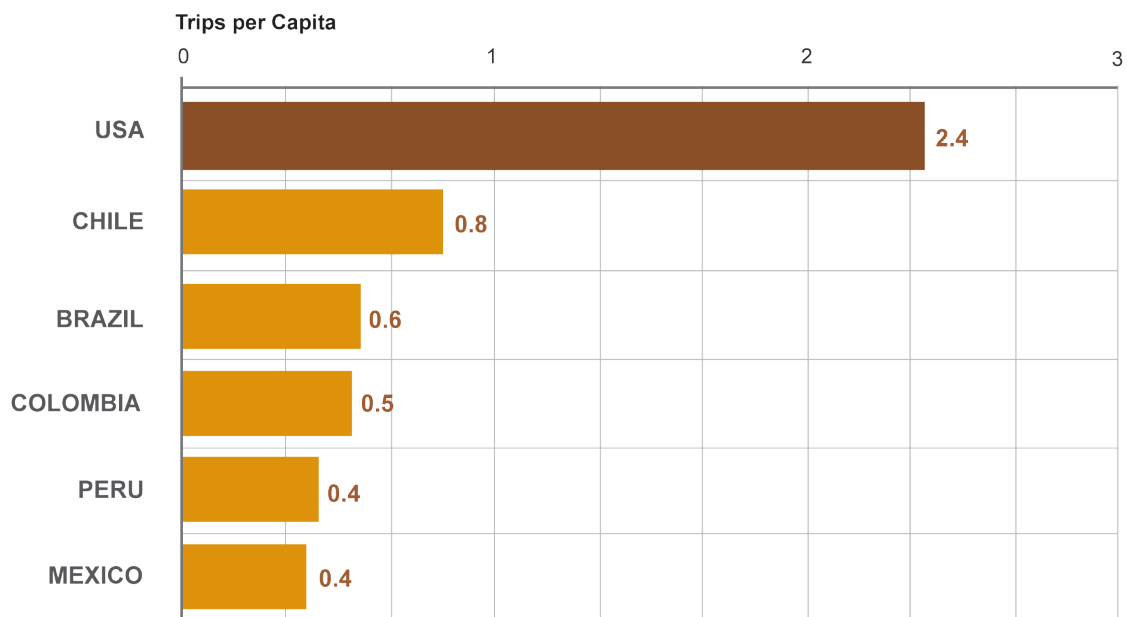
Air transport is spreading beyond major financial and industrial centers, namely Sao Paulo, Mexico City, Lima, Bogota, Rio de Janeiro, Santiago and Buenos Aires. This will mean a need for efficient airline service to new low and mid-density markets and higher frequencies in existing markets. This is a trend that has already started with the deployment of right-sized aircraft, like Embraer E-Jets, in Brazil, Mexico and Colombia. Demand for air travel to Latin American mid-sized cities, defined as cities with a population between 100,000 and 1,000,000 inhabitants, is growing nearly 1.5 times faster than the largest cities in the region. Consolidation and mergers have contributed to fundamental changes in the airline industry as a way of leveraging synergies and focusing on sustainable growth and profitability. Yet, some major carriers responded to the capacity/demand mismatch and financial losses by cutting routes and reducing capacity to achieve a more viable business environment. This adversely affected network connectivity and exposed them to new competitors.

Fleet optimization is key, as secondary markets are poised to lead the demand for new air travel. Carriers will continue to acquire new and efficient aircraft to serve low and mid-density markets and to maintain network connectivity.

Azul, for example, established a winning platform, radically transforming the Brazilian airline industry. The carrier has the largest network in the country with service to over 100 destinations and opened 65% of all new markets in 2014. Having a limited number of local passengers means individual routes cannot sustain large-capacity jets nor have the ability to fill the additional seats that new entrants bring. E-Jets give airlines the ability to sustainably grow and deliver better asset performance and achieve higher returns. Their range and capacity can effectively meet intra-Latin American market requirements.

Air Transport Development

Source: IHS Global Insight, Sabre, Embraer





WEST DOT SAY

**FLOURISHING TOURISM AND
BUSINESS ENVIRONMENT
DRIVING GROWTH**

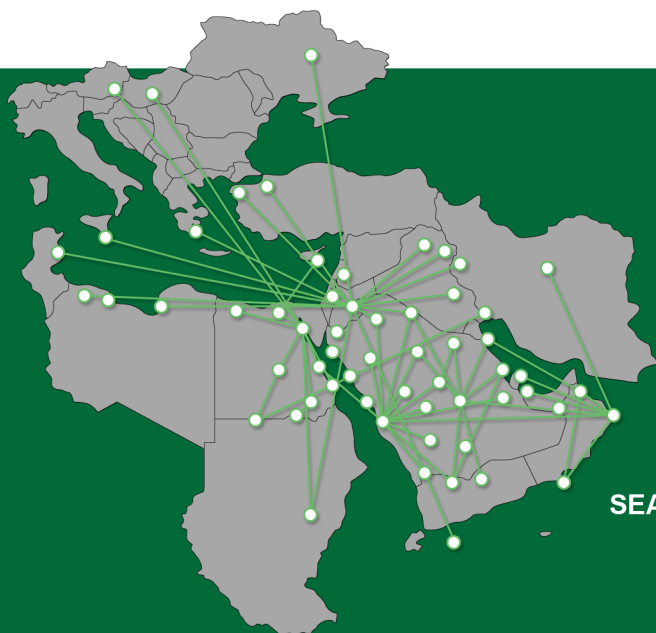
With the biggest oil reserves in the world, Middle Eastern countries have always been very dependent on oil revenues. They have been working for years to diversify their economies by spending high levels of public capital and accelerating private sector credit, supporting non-oil economic activities that now represent 60% of the region's economic output, compared to 20% in the 1980s.

Besides future scenarios with the lower price of oil, those efforts are reflected in the long-term view of GDP growth which is estimated to be 3.8% annually over the next 20 years. This is mainly influenced by medium-term economic growth due to the region's geopolitical position and tourism potential.

Airlines in the Middle East have taken advantage of their strategic geographic location to build global networks that efficiently connect passengers through their hubs. Consequently, the region is one of the fastest-growing markets in the world with strong 13% traffic growth, according to IATA.

In the last decade, ASKs have almost quadrupled thanks to capacity increases from Emirates, Qatar and Etihad. Those flagship carriers accounted for 70% of the total ASKs flown by Middle Eastern airlines in 2014. Following this solid trend, Embraer forecasts the region to have the second highest growth rate with annual RPKs increasing 6.8% for the next 20 years.

KEY FIGURES



MARKETS SERVED BY E-JETS
Source: Innovata, Embraer (2014)

| Economy (GDP) | | 3.8% | |
|----------------------|-------------------------------------|----------------------|-------|
| Traffic (RPK) | | 6.8% | |
| SEAT SEGMENT | PROJECTED NEW DELIVERIES | FLEET SERVICE | |
| | 2015-2034 | 2014 | 2034 |
| Jet 70-90 | 60 | 50 | 60 |
| Jet 90-130 | 160 | 50 | 160 |
| Jet 70-130 | 220 | 100 | 220 |
| TP70+ | 40 | 10 | 40 |
| Jet 130-210 | 1,390 | 430 | 1,110 |

However, this success story does not mean that there are no significant challenges to be met, particularly with respect to air traffic management, regulation and overcapacity on long-haul sectors.

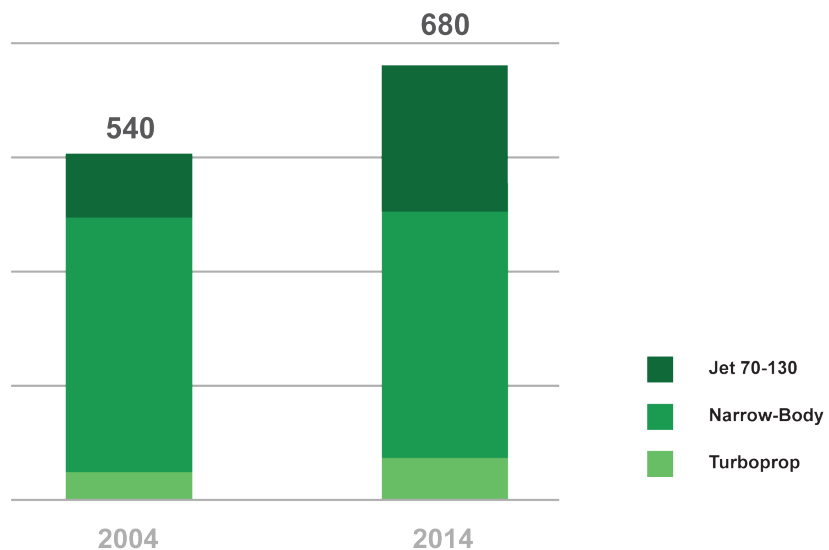
Although carriers in the Middle East are focused mainly on operating long-haul flights, there are good opportunities for intra-regional aviation. RPKs have grown 8.0% annually over the last 10 years, well above the world average. A flourishing tourism industry and business environment fostered by governments are the main drivers for that growth.

Accordingly, 70 to 130-seat jets have played a key role in connecting the region: the number of city pairs served (intra-regional up to 2,000 nm) by those aircraft in 2014 was more than double the number a decade ago. The number of city pairs served by turboprops and narrow-bodied equipments was almost unchanged during the same period.

Deploying more right-sized aircraft can maintain that growth since there is still room for more aircraft in that category. In 2014, around two thirds of all intra-regional flights operated by 130 to 180-seat jets (250,000 departures) had low load factors, carrying fewer than 130 passengers. The 70 to 130-seat jets are ideally suited for those routes and could help airlines to explore new opportunities by using them to open new markets and to add frequencies in existing markets.

Number of City Pairs Served

Source: Innovata (up to 2,000nm)





NORTH
AMERICA


**CONTINUED CAPACITY
DISCIPLINE CONTRIBUTING
TO A HEALTHY INDUSTRY
ENVIRONMENT**

The long-term economic outlook for the region is based on the sound economic state of the country in early 2015 - a boost in consumption from higher employment, a rebounding housing market, and lower gasoline and heating costs. Real GDP is projected to grow at an annual average rate of 2.8%, outpacing the rest of the world for only the second time since the 1990s. Over the next 20 years, the region will report annual growth of 2.5%.

As the most mature market in the world, air transport demand follows a RPK/GDP ratio close to one. Embraer expects North American demand for air travel to grow 2.7% per year until 2034.

Business models are converging across the USA. The distinction between legacy carriers and Low Cost Carriers is no longer as clear. To compete for short-haul passengers, traditional full-service carriers are restructuring their businesses in intra-regional point-to-point operations and serving hub-and-spoke markets traditionally flown by 50-seat jets with larger capacity regional jets with premium seating. Improved profitability has enabled airlines to raise liquidity by increasing total cash reserves. Liquidity levels are especially important in the airline industry because cash balances help the airlines to withstand potential industry shocks, such as lower travel demand and fuel price volatility.

KEY FIGURES



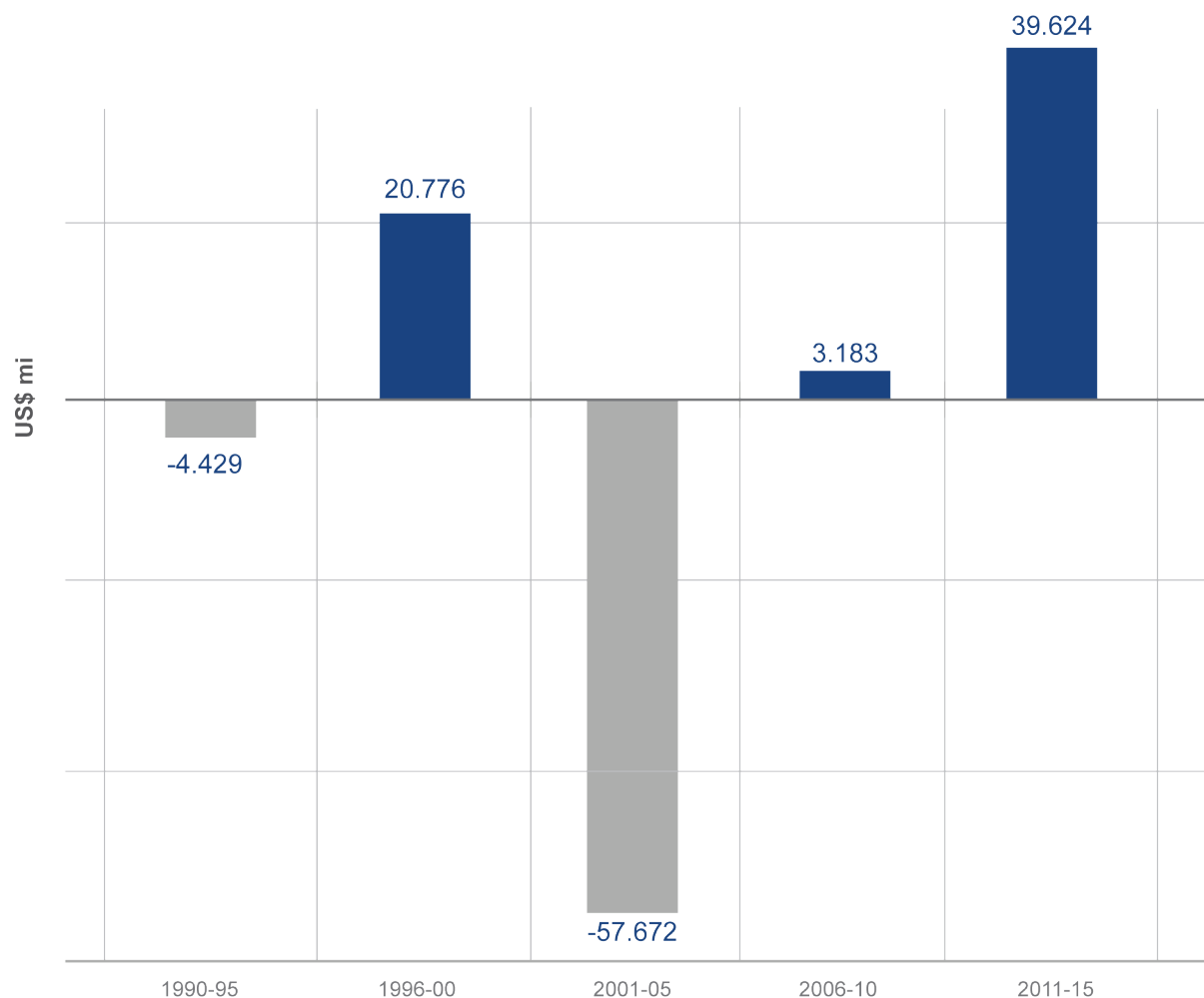
| | | | |
|--------------|-----------|-----------------------------|------------------|
| | | Economy (GDP) | 2.5% |
| | | Traffic (RPK) | 2.7% |
| | | PROJECTED NEW DELIVERIES | FLEET IN SERVICE |
| SEAT SEGMENT | 2014-2034 | 2014 | 2034 |
| Jet 70-90 | 1,260 | 760 | 1,300 |
| Jet 90-130 | 800 | 240 | 810 |
| Jet 70-130 | 2,060 | 1,000 | 2,110 |
| TP70+ | 330 | 160 | 330 |
| Jet 130-210 | 4,540 | 3,320 | 5,000 |

The latest efforts by carriers to return profits to shareholders are another indication of the industry's improved financial health since the economic recession of 2007–2009.

Capacity discipline with a focus on profit maximization has been key to posting positive financial performance. According to IATA, North American airlines are expected to report record net income of \$13.2 bi for 2015, a figure that will account for half of the industry's worldwide net profit. Profit margins before interest and taxes are also forecast to increase 0.5 percentage points to 6%, a huge improvement compared to the last decade.

Net Income - US Airlines

Source: ICAO, IATA, Airlines



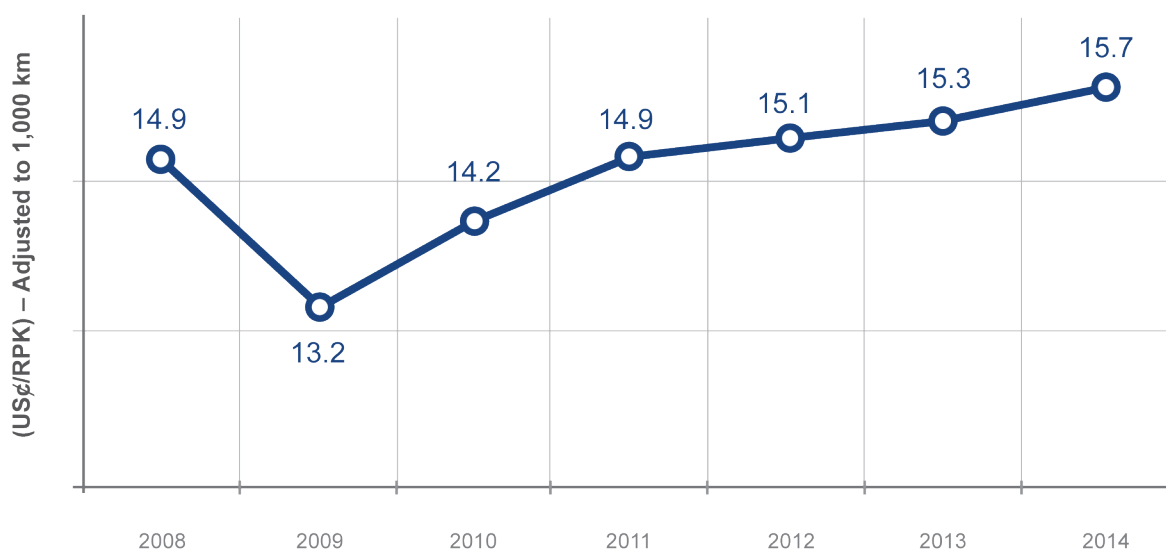
Carriers reshaped the domestic market by adopting a more cautious approach to fleet growth than in the past. Overall seat capacity in the domestic USA is below the pre-recession level. United Airlines, for example, reduced domestic capacity (available seat miles) by 0.8% annually between 2010-2014. Since all major airlines did not add significant seat capacity to their networks even as demand for air travel rose, overall industry air fares increased.

A consequence of modest capacity expansion is that load factors will be at high levels, allowing better seat inventory control as airlines continually search for higher yields.

The ongoing need for operational efficiency will prompt carriers to acquire additional 90 to 130-seat jets, like the E190 and E195. The segment will become another cornerstone for a new age of healthier financial results and stability through the ups and downs of business cycles in North America. With different pilot salary tiers, it will be a compelling economic alternative to current domestic operations, not only to adjust regional operations, but also to match capacity to demand in narrow-body markets. By doing so, airlines can increase unit revenue, profit and Return on Aircraft Assets (ROaA), a virtuous cycle that results in sustainable profitability.

Real Yield Evolution – US Airlines

Source: A4A



PROCESSES OVERVIEW

MARKET FORECAST PURPOSE

For more than 10 years, Embraer has focused on continuous improvement of the market forecast process to refine out modeling in order to identify and forecast future trends. The Embraer Market Outlook process consist of two main steps: (1) the traffic demand forecast for the future evolution of RPKs by regions and sub-regions based on econometrics for the next 20 years and (2) the aircraft demand forecast that estimates the number of new aircraft deliveries from 30-seater turboprops to wide-bodies during the same period.

The accurate analysis of this aircraft demand can support the identification of airline needs and new product requirements in addition to better position Embraer with its discussions with stakeholders.

METHODOLOGY

The process consists of identifying the future evolution of traffic demand, in terms of RPKs, for the next 20 years based on econometrics. Such models have several inputs, among which are:

HISTORICAL TRAFFIC DATA;
GROSS DOMESTIC PRODUCT (GDP) EVOLUTION;
TRADE;
TOURISM;
FUEL PRICE;
POPULATION DYNAMICS;
AIRLINE COMPETITION;
AND TRAFFIC OF OTHER TRANSPORT MODES.

The models consider network traffic of intra- and inter-regional traffic flow interactions by airline domicile. The output is obtained by an analytical choice of equations and variables that better fit the historical traffic evolution for each flow. In addition, other “proxy” variables are considered for quantitative events that shift the outcome, such as occurrence of terrorist attacks, war, disease and airline bankruptcy.

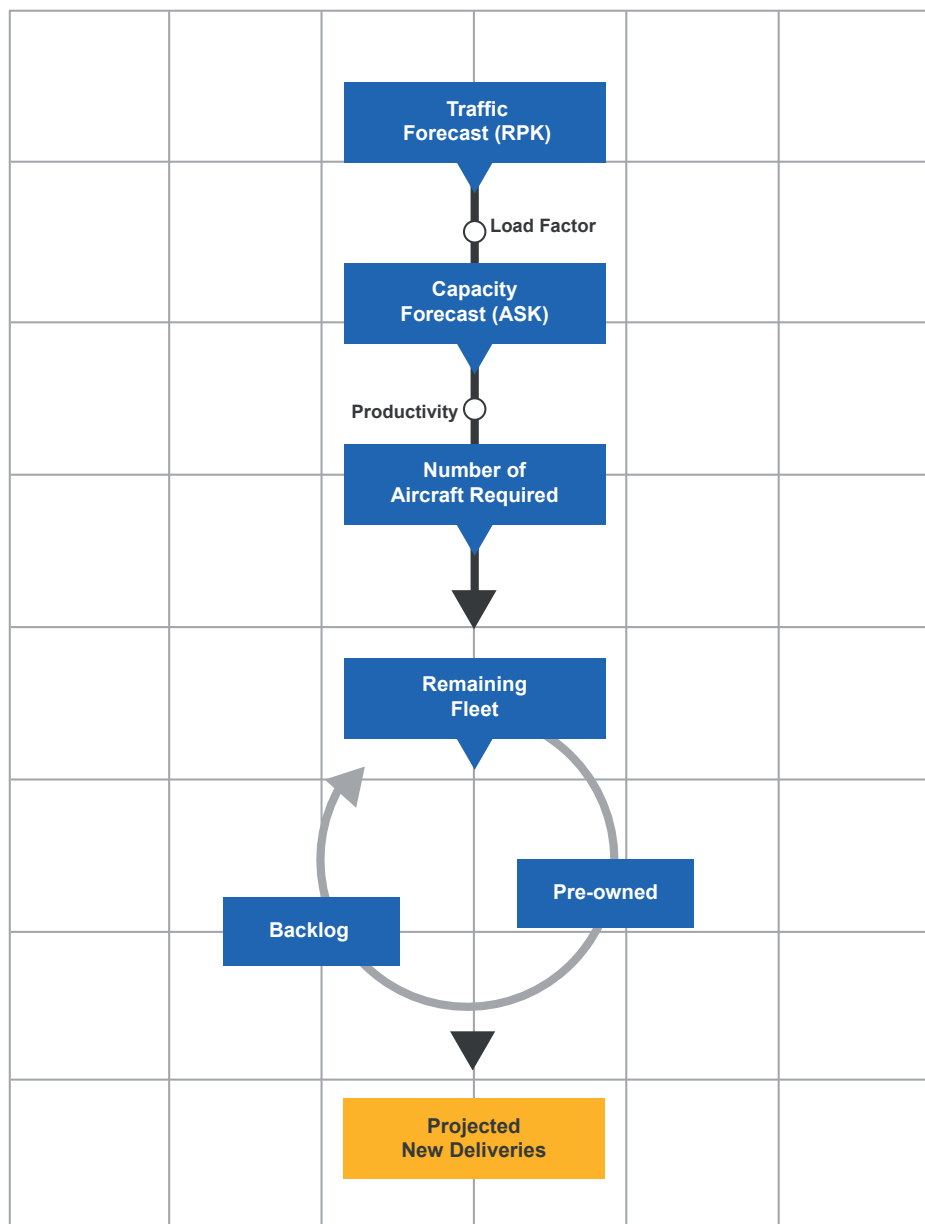
FORECASTING NEW DELIVERIES

The new deliveries forecast in the Embraer Market Outlook splits the aircraft into regions and segments by seat capacity, from 30-seater turboprops to wide-bodies, for the next 20 years.

Examining each regional network allows Embraer to forecast how the future load factor, and consequently future capacity, will be distributed for different seat segments. Embraer goes through its own models to better understand previous and future aircraft utilization, retirement age, pre-owned aircraft flow and aircraft leasing dynamics. All of these subjects cover macro drivers like fuel price, entry in service of new generation aircraft or airline business model evolution, to derive the future required fleet and hence the projected new deliveries.

Market Forecast Schematic Flow

Source: Embraer



REGIONAL DEFINITIONS

North America & Caribbean

(USA and Canada)

Latin America (includes Mexico)

Europe (includes Israel)

Russia/CIS

Africa

Middle East (includes Egypt)

Asia Pacific

China (includes Hong Kong, Macau and Mongolia)

DATA SOURCES

ALL ANALYSIS DEVELOPED USED DATA FROM

Global Insight

The Economist

OECD, McKinsey Global Institute

OAG, ACAS

ICAO, IATA

A4A, CAAs, AEA, ALTA, APAC,

AFRAA

Eurocontrol

Sabre

Embraer Market Intelligence

Airlines

DEFINITIONS AIRCRAFT SEGMENTATION

Embraer defines its forecast according to these categories:

TURBOPROPS

30 to 70-Seat

ATR-42

Antonov An-140

MA60

EMB-120

Q300

Domier DO328

Fokker 50, F-27

Jetstream 41

70+ Seat

ATR-72

Q400

Ilyushin

BAe ATP

JETS

30 to 70-Seat

ERJ-135, -140, -145

CRJ100, 200, 440

328Jet

YAK-40

70 to 90-Seat

EMBRAER 170, 175
CRJ701, 705, 900
Antonov An-148

TU-134

Bae 146-100, -200

AVRO-RJ70

Fokker F28, F70

DC-9, -20

ARJ-21

Mitsubishi MRJ90

E175-E2

90 to 130-Seat

EMBRAER 190, 195
A318
B737-600
CRJ1000
Superjet 100

B717, B727-100,

B737-100, -200, -500

Fokker F100

BAe146-300, AVRO

RJ100

DC-9-30, -40, MD87

YAK-41, BAC-111

CS100

E190-E2, E195-E2

NARROW-BODY JETS

130 to 210-Seats

A319, A320, A321

B737-700, -800, -900

B707, 757, 727-200,

737-300, -400

DC9-50

MD-80, -81, -82, -83, -88, -90

Tupolev TU-154, -204

Ilyushin IL-62

A320neo Family

B737 MAX Family

CS300

WIDE-BODY

210+Seat

A330, A340, A350, A380

B787, B777, B747

A300, A310

B767

DC-10

MD11

Ilyushin IL-86, -96

CONTACT INFORMATION

We welcome your feedback and comments at:
market.outlook@embraer.com

The Embraer Market Outlook (11th Edition)
is also available online at:

www.embraermarketoutlook.com

www.embraercommercialaviation.com

