Global Market Forecast

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The future of flying

2006-2025



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Executive summary

Air travel is a vital element of people's lives around the world. It stimulates national economies, global trade and tourism. It helps to improve the quality of life in developed, developing and emerging countries. It unites friends and families, lets people explore new horizons and cultures and gives access to career and educational opportunities. It brings people together, face to face, to develop business opportunities and to tackle global issues. Air travel responds to all of these human needs as no other manner of communication can – people want to and need to fly!



The millions of people involved in aviation recognise that a balance must be maintained between the demand for air transport and the environment in which we live and are committed to achieving this. Moreover, aircraft manufacturers have an intrinsic requirement to be technological pioneers and to develop increasingly fuel-efficient aircraft. This improves competitiveness, as fuel is the single highest operating cost for customers. In short, reducing fuel consumption is in the best interests of the environment, of the customers and, therefore, of the aircraft manufacturing business. Unquestionable strides have been made towards achieving this goal in the last 50 years and it is clear that these efforts will continue to intensify in the future.



7,200 aircraft to be replaced by more efficient models New passenger and freighter aircraft deliveries will average 1,133 per year leliveries d

aircraft will 133 r Recycled 4,842

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Forecast highlights

In recent years a number of significant developments have influenced passengers and airlines. These have affected the shape and direction of the aviation industry, as well as the level of future demand around the world. Clearly Airbus takes these changing dynamics into consideration when developing and updating its Global Market Forecast (GMF).

This year Airbus has expanded the scope of the GMF in two ways. First of all, it has included Russia and the rest of the Commonwealth of Independent States (CIS). Secondly, it has added a number of dedicated regional carriers to the more than 400 airlines already covered at a micro level, thereby broadening significantly the report's coverage.

Air traffic achieved a 14% annual growth rate in 2004, greater than at any time in the previous 25 years. This strong performance was maintained in 2005, with a growth rate of 7%, well above the historical annual average.

Driven by a strong economy, new entrants, large emerging markets and increasing liberalisation, air travel has grown nearly 30% since 2000, the strongest recovery in aviation history. This has been in spite of high fuel prices and security concerns, and highlights the resilience of the industry. New entrants have added a significant amount of (additional) seat capacity. The network airlines have succeeded in responding to the strong demand through dramatic aircraft productivity improvement, which has contributed significantly to their financial recovery.

In the future, low cost carriers are expected to continue growing around the world, particularly in Asia. Meanwhile, the network airlines are expected to benefit from fast growing international markets, with a wave of new international travel consumers from the emerging countries.

Over the 2006-2025 period covered by this forecast, world passenger traffic is expected to increase by 4.8% per annum. This traffic growth, combined with fleet renewal, will require the delivery of 21,860 new passenger aircraft with more than 100 seats.

The number of passenger aircraft in service will more than double from 12,676 at the end of 2005 to 27,307 in 2025.

Airbus predicts that passenger airlines will replace 12,071 aircraft during this period. Of these, 4,842 aircraft will be recycled back into passenger service, 2,777 will be converted to freighters and the remaining 4,452 will be permanently withdrawn from service.

Freight traffic is expected to grow at 6.0% per annum between 2006 and 2025. When combined with fleet renewal this will create demand for 3,580 freighter deliveries, of which 803, or 22%, will be factory-built freighters.

Overall, this means that the world's airlines are forecast to take delivery of 22,663 new passenger and freighter aircraft over the next 20 years, equating to average annual deliveries of 1,133 aircraft.

Airlines will also require nearly 4,000 smaller jets, with between 30 and 100 seats, to serve regional demand, especially in the US and Europe.

The world's fleet, which includes both passenger (from 30-seater jets to very large aircraft) and freighter aircraft, will grow from 17,153 at the end of 2005 to nearly 33,500 by 2025.



22,663 new passenger and freighter aircraft deliveries over the 2006-2025 period



Frequencies will double

The number of frequencies offered on passenger routes will more than double. This is a more rapid rise than in previous years and will, given current levels of congestion and delays, present a continued challenge to the world's airports and air traffic management systems.

World jet aircraft size, including regional jets, will increase by 20% over the next 20 years, as a result of increased congestion, diminishing returns of traffic stimulation from increased frequencies and the overall growth of the fleet.

This GMF assumes that all planned and required infrastructure improvements will be undertaken during the forecast period. However, given the substantial investments and time required to carry out such developments, there is the possibility that not all the changes necessary may be achieved. Should this be the case, average aircraft size could go higher than anticipated levels and airlines could, therefore, be forced to acquire larger aircraft in order to meet demand.

The emergence of low cost carriers and increased liberalisation, particularly in Asia, will add more singleaisle aircraft on domestic and intra-regional flows than in previous forecasts. More than 70% of new deliveries will be single-aisle types.

By 2025, the world's airlines will be operating 1,263 very large passenger aircraft and 1,228 large freighter aircraft to link dynamic hub cities. In particular, 56% of the world fleet of very large passenger aircraft will be operated by the airlines of the Asia-Pacific region.

Passenger and freighter deliveries worth \$2.6 trillion

The 22,663 new passenger aircraft and freighters that will be needed over the next 20 years are worth approximately \$2.6 trillion at current list prices.

Most of this business will be generated from single-aisle deliveries, while 1,665 large passenger and freighter aircraft will account for 20% of total aircraft delivery value. The greatest demand for passenger aircraft will come from airlines in the United States, the People's Republic of China and the United Kingdom. Europe will receive 25% of the total, with the US and Asia-Pacific taking 28% and 31% respectively.

As many as 5,668 twin-aisle passenger and freight aircraft will be required to serve the existing, mainly international, markets and new routes created by ongoing market evolution.

New aircraft deliveries 2006-2025



Total new deliveries by region

Passenger aircraft demand ≥100 seats, freighter demand excluded



Top ten countries (2006-2025)

	Passenger aircraft demand		By \$ value (billions)	
1	United States	6,628	United States	538.1
2	People's Republic of China	2,929	People's Republic of China	349.3
3	United Kingdom	1,282	United Kingdom	145.9
4	Germany	1,041	Japan	117.8
5	India	935	Germany	108.7
6	Russia	811	India	100.9
7	Japan	646	UAE	71.6
8	Mexico	620	Russia	69.6
9	France	543	France	68.4
10	Spain	519	Australia	63.2



Business volume 2006-2025



Demand for air travel

Emerging markets: the main driver of growth

Emerging countries will drive the world economy

Source: Global Insight, Airbus

Bubble size proportional to real Gross Domestic Product (GDP) at Purchasing Power Parity (PPP) in US\$ billion in 2010





merging markets are regional economic powerhouses with large populations, large resource bases and large markets. They are the world's fastest growing economies and are, therefore, becoming critical participants in major political, economic and social affairs. The emergence of these economies is essentially the result of their focus on education, foreign investment and domestic consumption. Brazil, Russia, India and China (BRIC) are the largest emerging markets. These nations are already changing the face of global economics and have the potential to become the four most dominant economies by the year 2050.

1 in 5 aircraft deliveries in next 20 years will be to emerging markets

They are evolving into vibrant marketplaces with a dynamic consumer base, which is expected to become three times larger than that of North America and Europe by 2025.

China comes first among the emerging countries in the combined ranking of economic growth and export growth. However, India and Russia move into this position when the ranking of economic growth and private consumption are combined. Other emerging states in Eastern Europe, Asia, Africa and Latin America are also expected to drive world economic growth.

BRIC addressable market for air travel to double in next ten years

Source: Global Insight, Airbus Real annual household income in 1997 US\$ at PPP\$



Today, the BRIC countries account for almost 1.5 billion middle class consumers, and, together, they add some 80 million new consumers every year to the addressable market for air travel.

As a result, demand for air travel in the BRIC countries has been growing at 9.9% per year for the last ten years. This surge in demand has resulted in their airlines' fleets growing from 1,800 in 1996 to 2,450 aircraft in 2006.

Brazil, Russia, India and China represented only 5% of the world's annual aircraft orders until 2004, but by 2005 their share had jumped to 35%. Given their potential for growth, it is anticipated that the emerging countries will continue to represent an important share of the orders into the future.

Emerging market orders on the rise Aircraft orders from Brazil, Russia, India, China



Real annual

	household income		
	>\$70,000		
	\$17,500 - \$70,000		
	\$7,500 - \$17,500	Ado	dressable market for air travel
		1995	500 million people
	<\$7,500	2005	800 million people
		2015	1,600 million people

The propensity of people to travel in each country depends on their social, cultural and geographical characteristics, but is mostly correlated to the output per capita of their countries. As the GDP per capita increases in a particular country, the number of trips per capita increases along a typical air travel propensity curve.

Today, every US citizen makes an average of 2.2 trips per year, whereas in India, only one in 44 of the population will fly this year. Airline deregulation is allowing the entrepreneurial spirit of the air transport sector to flourish. This is greatly accelerating the propensity to travel for the people in these countries. Lower air fares, more service and the increasing value of time in these emerging countries, are inexorably

Large potential to increase propensity to travel Source: ICAO, Global Insight, Airbus



2006-2010: highest traffic growth in emerging and large population regions

*Asia excluding India and China

egions	China India Eastern Europe	Yearly traffic g +10.8% +9.8% +9.7%	rowth
ng r	Middle East	+8.0%	people
ndii	CIS	+7.4%	poopio
xpa	Asia	+7.1%	
ш	Africa	+7.0%	
	Latin America	+6.2%	
Developed regions	Australasia Western Europe Japan North America	+6.6% +5.6% +4.7% +4.1%	1 billion people

pulling traffic from buses and trains into aircraft. Because their emergence also coincides with the deregulation of their own domestic market, the BRIC countries are moving much faster along the air travel propensity curve than any of the countries previously classed as emerging countries. For example, it will have taken South Korea 20 years, from the start of its emergence to achieving developed status, to reach 0.5 trips a year per capita. In comparison, it will take China less than 15 years to reach the same level.

The emerging countries are not only demanding more air travel than that of developed regions but are also representing a much larger share of the world population. As wealth and some of the more recent airline models make air travel accessible to more and more people, there is considerable potential for air travel growth for these emerging economies.

Brazil, Russia, India and China are the largest, but not the only, emerging markets in terms of air travel. Others include Indonesia, Malaysia, the Commonwealth of Independent States (CIS), Poland, Hungary, Turkey, Mexico, Argentina, Chile, South Africa, Morocco and Egypt, while more are emerging countries in the making.

India: enormous potential unleashed

odern India is characterised by strong economic growth, the largest consumer market in the world, an educated labour force and dynamic entrepreneurship. Services and information technology will remain the backbone of its industrial development, but India's focus on manufacturing, infrastructure and logistics could push economic growth to new heights. Capitalintensive projects coincide with a new bullish confidence of the largest international investors in India. In fact, India has become the most favoured destination for foreign direct investment (FDI) after China, even ahead of the US. Furthermore, FDI looks set to increase dramatically, accelerating India's manufacturing, infrastructure and logistic projects, including airports. Therefore, India is well positioned to become the world's second most powerful goods manufacturer in the near future, which will in turn, provide a boost for business and freight traffic.

Over the last couple of years, air transport deregulation in India has precipitated a number of new airlines and reduced fares, which has unleashed a large frustrated demand for air travel in the country. India's railway, which is the largest in the world has previously benefited from the strong demand for transportation in a large country with a relatively limited road infrastructure and historically a high airfare environment. Interestingly, India's rail traffic has grown as fast as the rail traffic growth witnessed in China. However, unlike China, air traffic growth remained flat in comparison to China's expanding air transport market through the end of 2003.

in India



Source: IATA, Airbus





Strong basic need for transportation

Source: IATA, UIC, Airbus *Revenue Passenger Kilometres (RPKs

Boom in Indian air traffic following deregulation

*Average Annual Growth Rate (AAGR)

Indian domestic traffic

Billion RPKs



Indian international traffic (Indian carriers)



Demand for air travel Global Market Forecast 11



Recognising that air transport is vital to India's economic development, lawmakers have unfettered growth by enacting a number of deregulation measures since 2003. Indian enterpreneurs have responded by creating new airlines to feed the resulting dramatic demand. As a result, traffic has now taken off, growing at an impressive 20% per year in the period from 2003 to 2005, in both tourism and business markets. This giant pool of first-generation flyers in India is already beginning to experience the benefits of air travel.

If in 1987, experts could have forecast traffic through 2005 in a fully deregulated market with the insight of the economic figures for the period, they would have predicted some 30 billion more Revenue Passenger Kilometers (RPKs) than the actual traffic performed – some 150% higher. So, today's high traffic growth is really the result of large pent-up demand created by regulatory and investment constraints prior to 2003.

This is a demand now all too evident as the country's population takes to the skies in ever increasing numbers. The domestic traffic growth rate forecast for India is expected to continue to remain strong at 16.4% per year for the next ten years until this frustrated demand is fully served, after which air traffic will grow at a rate more in line with Indian economic performance.



Source: IATA, Global Insight, Airbus



Domestic India traffic: catching-up on the large frustrated domestic demand



1980 1985 1990 1995 2000 2005 2010 2015 2020 2025

Growing international demand led by tourism and business activity





Over the last three years the international tourism market to India has increased by 60% and the business market has increased by 140%.

However, this has been a rapid growth and international airlines from other countries have also been guick to benefit. As a result, airlines based in India have lost ground in terms of their market share, which is now stable at 35%. However, with new bi-lateral air service agreements and the acquisition of new aircraft, India's airlines have regained much of their competitive capability and can now start to address their international market share effectively. The Airbus traffic forecast conservatively assumes that the Indian airlines will reach a 50% market share of their own international markets by 2015. This assumption is expected to help accelerate their traffic growth in the first decade to 9% per year, with it remaining above world average growth of 6.3% thereafter.

To accommodate the large domestic and international demand for air travel, the Indian fleet will grow from 190 aircraft in operation at end 2005 to 959 by 2025. As many as 44 very large aircraft will be required on domestic, intra-regional and long-haul international markets.



93 in Pass Flei 1000



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International traffic: higher share for Indian carriers in the future



India air transport demand summary

ndia	2006-2015	2006-2025
otal passenger traffic (annual growth) 8.9%	7.7%
omestic traffic	16.4%	12.3%
nternational traffic	6.8%	6.2%
otal freight traffic	6.8%	6.3%
otal new deliveries (passenger aircra	ft) 557	935
ingle-aisles	436	712
win-aisles	106	179
ery large	15	44
leet in service in India	2005	2025
lassenger	190	959
reighter	8	134

935 new passenger aircraft needed in India

Passenger aircraft demand ≥100 seats; freighter excluded



China: the fastest growing outbound tourism market on the planet



hina's economy has soared at consistently astonishing rates, even managing to outpace numerous economic forecasts. In fact, over the last four years, economists have regularly revised their predictions upwards with some views for 2025 now 50% higher than in comparable forecasts published just three years ago. At current rates, China could become the world's largest economy in advance of today's anticipated date of 2040.

In the last decade, 60% of China's economic growth has come from manufacturing. So much so that today China is considered to be the world's manufacturer. But, in the next decade China will not only be thought of as a producer, but also as a significant consumer.

Unlike India, where there is already a large middle class, the Chinese middle class is still relatively small in comparison to the large waves of consumers who are expected to emerge with much greater spending power than today. This wave is created by the conjunction of six phenomena: (1) the burgeoning economy, (2) rapid urbanisation, (3) resulting higher paying jobs in urban areas, (4) the gradual relaxation of the attitudes of the urban Chinese society to savings, (5) the increasing value of time and (6) the likely favourable exchange rate for Chinese global consumers in the future. These will lift Chinese middle classes to new heights, with air transport likely to be one of the beneficiaries.

China long-term economic forecast consistently revised upward

Source: Global Insight



By 2015 50% of China's population will be in urban areas



continue to migrate to higher paying jobs in China's cities and become tomorrow's middle class consumers. It is anticipated that China's urbanisation rate will reach 50% by 2015, some 700 million people. By 2030, China's urbanisation could be approaching the level of Japan. The concentration of wealth in the coastal provinces of the Beijing-Tianjin corridor, the Yangtze and Pearl River deltas will develop further, but will also spread to other large cities.

Over the next 20 years, Chinese workers will

A burgeoning economy, higher disposable income, a demographic shift toward large cities and the growing importance of the younger generation consumer, have already yielded a sizeable increase in consumer spending. However, today's consumer spending in China is only a hint of what it promises to become, as the high household saving rate has somewhat limited its full potential. An increasing number of urban workers are steadily climbing the income ladder and will soon create a massive wave of middle class consumers that will push consumer spending to new heights. Research from the McKinsey Global Institute suggests that in less than ten years the lower and upper middle class households will grow from 20% to 70% of the urban population.

Concentration of demand in China led by urbanisation and higher income in cities

Source: Population Division, UN, 2006, Airbus

- Lower middle class
- Upper middle class
- Lower and upper middle class cumulative

Chinese households spending more on transport









RPK = f (Real GDP\$ at PPP per cap. PRC, Real imports & exports \$ PRC, Yield, Chinese Middle Class, Saving rate, Liberalisation)

China single-aisle aircraft demand sensitivity is low

*Average Annual Growth Rate (AAGR)

China forecast		20	006-2015 (AAGF	? *)
Real GDP	Global Insight Consensus forecast		6.9%	
Real GDP per capita	Global Insight Consensus forecast	6.0%	6.1%	8.1%
Real Exports	Global Insight Consensus forecast	5.3%	9.0%	7.1% 10.1%
Real Imports	Global Insight Consensus forecast	10.1%	11.5%	12.9%
Middle Class (share growth ra	te of total population)	0%	1%	2%
Saving Rate		60%	45%	30%
Yields		-1%	-4%	-7%
Pace of liberalisation		Regulated	Progressive	Fully liberalised
Single-aisle demand	d 2006-2015	LOW 1,099	BASE 1,161	HIGH 1,257

Domestic China air travel doubling every 5 years

Lower household saving rates in urban areas and higher income have already transformed Chinese households' spending habits towards more discretionary items. Spending on cars and housing has grown threefold and is continuing to grow at even higher rates. Transport and communications have become the fastest growing discretionary spending items representing 10% of the Chinese household wallet today. The largest beneficiary has been air transport, with domestic air traffic doubling every five years.

Indeed, domestic China traffic depends on the typical economic drivers such as the GDP, exports and imports, and airfares. However, it is also driven by other specific emerging market characteristics such as middle class development and corresponding disposable income (influenced, in the case of China, by the household saving rates) as well as more qualitative variables, such as the pace of deregulation. Based on those drivers, Airbus anticipates that domestic traffic will grow at 14.7% per year for the next five years and 11.3% for the following five years. At that rate and considering aircraft retirement over that period, the airlines of China will require the delivery of 1,161 new single-aisle aircraft to fill the domestic demand for air travel.

Forecast scenarios based on different views and assumptions, derived from various economists and industry analysts, show little variation in terms of domestic air traffic demand and single-aisle requirement in China. Indeed, the selection of the lowest and highest assumptions gives only 100 above and 60 below the most likely case. What is certain however, is that demand for single-aisle aircraft in China is set for strong growth.



Chinese outbound tourism entered a new phase in 2005. For the first time, the number of outbound travellers exceeded 30 million people, of which more than 80% were tourists. However, only one in five Chinese travellers leave Asia after crossing the border. The number of urban middle class households reaching the income threshold that opens up the possibility of international air travel is accelerating. As a result, Chinese outbound tourism is on the verge of becoming the fastest growing tourism market on the planet.

In 2005, around 3.5 million Chinese outbound tourists travelled beyond Asian borders, but this figure is expected to reach 30 million by 2015. After joining the Chinese Approved Destination list, South Africa and Kenya have been able to increase the number of Chinese tourists visiting them by 69% and 661% respectively. However, surveys demonstrate that Europe and Australia are the destinations of choice for the future Chinese tourists, both in terms of aspiration and intention.

China to Europe represents 60% of the total longhaul international traffic of China compared with 30% for the China to North America traffic flow. Europe is expected to remain the largest Chinese international long-haul market.

Over the next 20 years, China international and domestic air travel demand will grow 6.2% and 8.2% per vear respectively. To satisfy this strong travel demand, the Chinese airlines will need to increase their passenger fleet from 758 aircraft in service today, to as many as 2,666 aircraft by 2025. Also emerging, demand for freight traffic is expected to grow at a 8.9% per year pace. The dedicated freight fleet of the Chinese airlines will need to grow from a small fleet of 33 aircraft today to 409 freighters by 2025.

1.500 1,000 500 0

2,500

2,000

China Total pa Domest Internat Total fr Total ne Single-Twin-ai Very lar

Fleet i Passen

Freighte

China outbound tourism: fastest air travel market segment in the world

Source: China National Tourism Administration, Airbus

People (millions)



2,639 new passenger aircraft needed in China

Passenger aircraft demand ≥100 seats; freighter excluded



China air transport demand summary

	2006-2015	2006-2025
assenger traffic	9.0%	7.2%
ic traffic	11.3%	8.2%
ional traffic	6.8%	6.2%
eight traffic	10.5%	9.1%
ew deliveries (passenger aircraft)	1,503	2,639
aisles	1,161	1,909
sles	307	617
ge	35	113
service China	2005	2025
ger	758	2,666
er	33	409

Olympic Games & World Cup to boost tourism in China and South Africa

he 2008 Olympic Games in Beijing and the 2010 Football World Cup in South Africa represent a considerable opportunity for these emerging economies to boost tourism and air transport to new levels.

Major sporting occasions such as the Olympic Games or the World Cup traditionally generate infrastructure projects, jobs and revenue prior to and during the events, but their legacy in terms of infrastructure and international tourism can last for decades. However, because emerging countries are characterised by (1) a relatively untapped tourism market, (2) a limited global awareness of what the country can offer and (3) an infrastructure still in development, they have even more to gain from major sporting events than developed countries.

For example, the Olympic Games held in Tokyo in 1964 and Seoul in 1988 were significant, partly because they are the only games to have been hosted by Asian countries, but even more so because these countries were still considered to be emerging economies when the games took place. The 1964 Olympics showed the rest of the world how rapidly Japan had recovered, with its muchvaunted "Shinkansen" bullet train making its debut between Tokyo and Osaka just in time for the opening of the event, showcasing Japan's emergent technology and economy. Similarly, the Seoul Olympics provided an opportunity for the world to discover South Korea's cultural heritage and marked a turning point in the development of Korea's tourism industry.



Inbound tourism increase in %

pre-



Tokyo 1964



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The potential benefits are enormous, even for developed countries: the Sydney Olympics accelerated the process of elevating the Australian tourism profile through the leverage of significant media exposure. Studies have credited the Olympics with bringing Australia not only AU\$6 billion in inbound tourism spending during the year following the games but more importantly, with creating the equivalent of AU\$6.1 billion worth of international exposure, thereby advancing international recognition of its tourism attractiveness by 10 years.

Surveys show that the Olympics have increased tourist intention to go on holiday to Australia by an average of 40% in Asia and by 20% in North America and Europe.

So, given the quality and extensive global coverage that the 2008 Beijing Olympics and the 2010 South Africa World cup promise to receive, they can certainly be expected to generate much longer-term tourism benefits and to contribute greatly to the traffic growth of the host nations.

Expansion through stronger hubs and network development

he strong growth of intercontinental traffic is distributed through (1) increased frequency and capacity on the existing network, in particular between the large hub cities and (2) through the development of the network, where growth creates new opportunities, including the opening of new routes.

Airbus believes that this pattern of network evolution will continue, with the addition of new non-stop and longer-range services and the strengthening of existing services to and from the world's major hubs. It has, therefore, developed a family of longhaul aircraft, ranging from 250 to 555 seats, to help airlines address these evolving markets.

Many drivers shape the air travel network and every one is both complex and, undoubtedly, connected. For example, network development is driven by the demand, itself influenced by price, but also by the route profitability and infrastructure constraints. Even if most people would prefer not to change aircraft during a trip, it will never be possible for everyone to fly non-stop from their home town to their final destination. Many other factors influence the route network development dynamic, not least demand, which when present at an adequate level, can prompt and support the creation of new profitable services between population centres.

Hub cities are also points

Strong traffic growth to be distributed through fragmentation and consolidation

Fragmentation "point-to-point"



- Market development • If traffic volume/frequency sufficient
- · Hubs are 'points' too · Hubs improve connectivity

Consolidation "hub-to-hub"



Larger urban population

Source: Population Division, UN, 2006



Many people live and work in hub cities and, therefore, want to travel to and from those cities for business or leisure. The services offered by large hub airports in these cities have developed to meet this demand.

Source: UN

1985

2015

As nations develop economically and demographically, an increasing proportion of their population migrates to the large cities and adjoining suburbs. By 2030, it is anticipated that 1.8 billion people worldwide will have moved to urban areas where there are better prospects for jobs and higher wages. In fact, by 2007, experts believe that for the first time more than half of the world's population will be urban dwellers. This will ultimately create a higher propensity to travel by air.

Today, just six cities worldwide have more than 15 million inhabitants. By 2025, there will be 12 such cities including seven in the dynamic Asia-Pacific region.

> Hub cities are getting bigger



More megacities and concentration of population



Half of the 100 fastest growing city-pairs involve a hub at both ends

Growth in additional seats 1995 to 2005

rce: OAG September of each year. Non-stop routes only with range > 2000nm. Domestic routes excluded



This growth in urbanisation will have a direct impact on the growth and shape of the future network. For example, the 100 fastest growing city-pairs, as measured by the number of seats added, link some of the most important and dynamic cities in the world. They include Shanghai, Vancouver, Dubai, Hong Kong and San Francisco as well as old favourites like London and New York. Six of the seven airlines that have contributed the most growth on these 100 routes have also ordered the A380.

All but one of the fastest growing routes includes a hub city, while half of them link two hubs. The route exhibiting the highest growth is London to Dubai, which connects the world's largest hub with the newest global hub.

Leisure traffic continues to grow

Source: World Tourism Organisation, Global Insight



Ticket price is the first criterion of choice Source: Survey of International air travel US Department of Commerce



Ticket price: the number one criterion when selecting flights

Over the last 10 years, leisure traffic has grown 4.2% per annum and now represents 76% of total tourism traffic. This trend is expected to continue and will possibly accelerate, particularly as tourists from emerging nations, such as India and China, join the world's 810 million annual holidaymakers.

Although economic growth remains the key driver in mature markets, demand for air travel has progressively become more leisure orientated, thus increasing the price elasticity of air travel.

Several independent studies and a US Commerce Department survey of international travellers, have shown that pricing is the most important single factor in choosing an airline - well ahead of the availability of a non-stop service. This obviously becomes an even more critical factor in emerging markets, where an international airfare can represent a large share of disposable income.

As long as affordable ticket prices are more important to passengers than direct flights, the best solution is to combine larger aircraft, with cheaper operating costs per seat, and international hub airports, with a wider choice of destinations and more convenient scheduling.

Hub cities are also the most dynamic cities in the world

Trunk and thinner routes from 32 hub cities grow in parallel

Intercontinental city pairs over 2,000 nm





Hub cities were, are and will remain dominant





On the long-range markets, there are 32 hub cities around the world today, which 80% of passengers want to fly to or from. These 32 hub cities are megacities and important global business centres. It is no coincidence, therefore, that these cities are also major international air transportation hubs. Traffic between these 32 major hub cities has increased at the same pace as traffic connecting them with secondary cities - approaching 50% of the total seat capacity offered in both cases. However, the so-called "hub by-pass" routes, or routes not involving one of these major hub cities, are ten times smaller in terms of capacity than routes involving at least one of these 32 hub cities.

Analysis of actual origin and final destination of passengers travelling on routes greater than 2,000 nautical miles (3,700 kilometres), reveals that 25% of the people who fly worldwide only want to travel between these 32 major hub cities and as many as 77% of people want to fly to or from one of these cities.

On the most mature of the "fragmented" markets, between Europe and the US, eight of the top 10 cities in terms of current air traffic were already among the top 10 cities 30 years ago.

More than 80% of the new transatlantic long-range routes to have developed in the last decade are linked to one of these 10 cities. This is particularly interesting as this market is held up as a case study in new route development.





Lessons from a mature intercontinental market: new routes involving a hub

Source: OAG September of each year



High failure rate on routes linking smaller cities - trans-Pacific



Why are the hub cities key to route networks? Put simply, it's where the money is (for the airlines too). Indeed, the traffic between the hub cities on both sides of the Atlantic has doubled, despite the addition of almost 100 regular direct routes during the last 20 years. Remarkably, three quarters of these new routes involve a hub city on one or both sides of the Atlantic.

On the developing trans-Pacific market, routes linking smaller cities have a high failure rate. Of the 52 routes opened during the past 20 years between primary cities in Asia and the US, 90% have proved successful and are still in operation today. By comparison, a similar number of routes were opened between hub cities and secondary cities, of which only about half are still in operation. And of the six routes opened between non-hub cities only two are currently in operation.

Going forward, hubs will continue to grow, while new routes will continue to be created as increasing demand makes it economically viable for airlines to open new city-pair combinations.

> 77% of air travellers' origin or final destination is one of 32 hub cities

This forecast uses passenger Origin and Destination (O&D) demand for every potential city pair to project how the network might serve that city pair in the future. For example, Airbus expects there to be 73 new route openings between Europe and Asia by 2015, with enough demand to justify a minimum of three weekly frequencies on a sustainable profit basis.

From a total of 300 routes between Europe and Asia projected in 2025, 51 routes will connect hub to hub and will account for more than half of total capacity. As many as 70 new trans-Pacific routes are expected to be opened. The core hub-to-hub routes represent 87% of total trans-Pacific capacity in 2015.





Hubs: The cornerstone of network evolution

 Top passenger origin/destination cities in Europe

 Largest
 Smallest

 Hub-hub
 Larger markets: most secondary

 Thinner markets:
 to be opened

 Secondary to secondary
 Secondary

 Secondary
 to secondary

 Mupping
 O&D traffic too small to be opened with 3 frequencies per week











To serve new markets, more range has often

been required. For example in 1995, the longest

intercontinental route was Los Angeles to Manila, but in 2005 the A340-500 enabled airlines to open

Singapore to New York, and by 2010 the longest

Hub-to-hub routes getting larger, the route network

developing through new services, more frequency

range routes getting longer - this is the reality of

international air travel today and will typify its future

evolution. This will mean that passengers will need

In response, the products offered by manufacturers

efficient. Manufacturers must provide aircraft with the

to serve these markets will need to be flexible and

right size and range, offering comfort and space

aircraft is uniquely positioned to match those

throughout the cabin for passengers, together with

the optimum level of commonality and fleet flexibility

for airlines. The Airbus extended family of long-range

requirements through the A330/A340, the A350XWB

Traffic to

secondary

cities to more

than double

route will probably be New York to Sydney.

and more capacity on existing routes, long-

more space and comfort.

and the A380.







x1.9

Today, 57% of the passengers from Europe to Asia are flying point-to-point, meaning flying non-stop from their origin to their final destination.

Traffic from

hub-to-hub

to nearly

double

In the future, Airbus anticipates that the Europe to Asia market will experience dynamic network development, with increased frequency and new routes developing, such as London to Chengdu or Madrid to Delhi. As these new routes open, the proportion of people flying point to point in 2015 will have only increased by six percentage points to 63%. Indeed, the largest point to point demand is mostly on existing routes and in particular between hub cities where the point-to-point traffic is expected to double.

On routes linking hub cities to secondary cities, point to point traffic will grow two and half times, with half of that growth resulting from the opening of new non stop routes.

Therefore, in 2015, some 37% of passengers will continue to connect, often on the existing hub-tohub routes, as these hub cities offer better service and in fact are often the final destinations.

Hub-to-hub traffic to double in ten years Source: IATA PAXis, Airbus forecast in monthly million pax (one way) Europe to Asia



Europe to Asia

Stronger hub routes and network development





Long-range route development 1995-2015

Existing and forecasted new routes above 6,000 nm

Source: OAG September of each year; Airbus, Rolls Royce

Cumulated number of city pairs > 6,000 nm



Europe - Asia 2015: Different markets for different aircraft

Between hub cities



Hub cities - secondary cities

Between secondary cities



Traffic forecast

Traffic Forecast

he starting point for any aircraft demand forecast is a clear understanding of the issues driving air transport and the way in which they relate to future air traffic and aircraft capacity. Airbus' traffic forecast process is based on four major building blocks: preparatory market research, appropriate market segmentation, econometrics and, importantly, network development.

The Airbus Global Market Forecast analyses a total of 152 distinct domestic, regional and intercontinental passenger sub-markets, segmented according to their degree of maturity and specific characteristics over time.

Airbus' market research examines the fundamental drivers of transportation including future consumer behaviour and expectations, the pace of

Airbus traffic forecast process



Traffic forecast process



liberalisation, the growing importance of emerging markets and constraints, such as the influence of airport congestion.

The market is segmented by airline business model, region and traffic flow, enabling the precise circumstances and drivers prevailing on every segment to be fully considered.

Econometric data is then used to quantify future air travel demand based on economic, operational and structural variables.

Finally, the derived growth is distributed accordingly across the route network, either through organic growth, such as the addition of traffic on existing routes like New York to London, or through the additionof brand new routes. This process produces a view of the future aviation network on which to

Air travel resilient to external shocks

Source: ICAO, Airbus estimate for 2006





base the micro demand forecast, which essentially takes the form of a large number of airline by airline fleet build ups.

In some market segments, classic econometric has been resumed. After two years of stagnation modelling is not sufficient to forecast traffic growth following 2001, air travel demand increased 14% adequately. For example, in Asia, the development in 2004, 7% in 2005 and close to 6% in 2006. of low cost carriers (LCCs) is driven by the pace and timing of deregulation within each country and the Looking forward, the main drivers of traffic growth will liberalisation between others. In Mexico, a portion be the increasing importance of the Middle Eastern of air traffic growth depends on the number of global hubs, the development of new routes, the people switching from the popular bus network evolution of domestic traffic in China and India, the to air transport, which is a consequence of lower Asian economic paradigm shift created by a wave of airfares and improved journey time. In the maturing consumerism, and the continuing traffic stimulation LCC markets of North America and Western Europe, by low cost or low fare airlines. the LCCs' growth will ultimately depend on the number and size of new routes still to be opened, on an economic and sustainable basis.

Great potential for low cost carriers (LCCs) in Asia



LCC Market share (seats): 29%

Population: 290 million Number of LCCs: 10 Deregulation: 1978

Population: 375 million

Air travel demand has proven to be resilient to exogenous disruption such as recession, war, terrorism and disease. The impact of each crisis has lasted only a short time, after which strong growth



LCC Market share (seats): 26%

Number of LCCs: 50-60 Deregulation: 1997



LCC Market share (seats): 9%

Population: 3.5 billion Number of LCCs: 15-20 Deregulation: acceleration today

Domestic operations have been the main driver of rapid expansion by Asian LCCs

Source: OAG Septembe * % of total LCC seats

2000 2010 37 292 airports airports with LCC with LCC operations operations Intra Asia* 23% Domestic* Domestic* 100% 77%

LCCs in Asia to continue their strong growth



20 vear world RPK growth 4.8%

In terms of the number of available seats, the market share of Asian LCCs grew from 5% in 2004 to 9% in 2006, largely within their own deregulating domestic markets. While there is still a potential for domestic new route development, the growth potential is thought to be much larger for the intra-Asian international markets. The pace of growth in these international markets will largely depend on the pace of liberalisation between countries in the region. For example, the Association of South East Asian Nations (ASEAN) are planning for open skies in 2008.

Air travel demand between Asian cities in a fully liberalised market could generate up to 1,600 LCC routes by 2015. The Airbus market forecast conservatively assumes that by 2015 the progressive liberalisation within Asia will result in 920 of those routes being opened. This will increase the number of Asian airports with LCC operations from 37 in 2000 to 292 in 2010. Asian LCCs are anticipated to grow at 11% per year for the next ten years.

Overall, Airbus predicts that for the next 20 years Revenue Passenger Kilometers (RPKs) will grow at an average annual growth rate of 4.8%.

Among the largest submarkets, annual RPK growth on Indian and People's Republic of China (PRC) flows is expected to average 12.3% and 8.2% respectively. This reflects increasingly optimistic projections for economic growth in these countries, as well as an increasing tendency for their populations to travel by aircraft. Growth will also be driven by increased wealth and improved access to air transportation generally.

RPKs (billion)

Domestic US Intra Western Europe Western Europe – US Domestic PRC Asia – Western Europe Western Europe – South America Japan – US Asia – US Domestic India Asia – PRC Western Europe – PRC Western Europe – Middle East Intra Asia Domestic Asia Central Europe – Western Europe Caribbean – Western Europe Africa Sub Sahara – Western Europe Canada – Western Europe Western Europe – Indian Subcontinent Western Europe – North Africa



For other, more mature markets, such as the domestic United States (US) and the intra-European market, Airbus foresees average annual RPK growth of 2.7% and 4.1% respectively, itself not at all insignificant, due to the already high base of traffic in these regions.

Although Indian and Chinese domestic flows are set to increase at a quicker pace, by 2025 the total volume of traffic and the actual volume of new RPKs (growth) in the US will still be larger.

However, by that time, the flows to and within North America, which traditionally generated the largest volume of traffic, will have been overtaken collectively by flows based in the fastest growing regions of Asia-Pacific and Europe.

In addition, the combined Middle East traffic flows are also expected to expand rapidly with 6.2% annual growth to 2025. Africa and Latin America are also expected to increase by 5.4% and 5.3% respectively over the next 20 years.

Traff

(billic

- 1600 r----1400 - - -1200 - - -1000 - - -800 - - -
- 600 -----400 - - -
- 200 - -
- x 1

Largest 20 traffic flows in 2025

300	1000	1200	1400	1600	growth	World RPKs
	2(06-202	5 grow	th	2.7%	15.1%
		i	i		4.1%	8.9%
		-			4.3%	7.3%
					8.2%	7.3%
					5.3%	3.2%
1					6.4%	2.5%
1					4.5%	2.3%
					6.2%	2.1%
1			Ì		12.3%	2.1%
i -	i	i	÷		6.7%	1.9%
ł					6.2%	1.8%
1					6.2%	1.8%
-					5.6%	1.6%
					5.2%	1.5%
1					6.8%	1.5%
-					4.1%	1.4%
1					4.6%	1.4%
					4.6%	1.4%
					6.1%	1.4%

4.8%

1.3%

India and China fastest growing but **US** and Western Europe remain the largest markets

	Domestic C	hina
	0	
– US		
Intra-N	/liddle East	Domestic India
0	Austral Middle	lia – East //
x 4	x 5	x 10
	- US Intra-N	Domestic C – US Intra-Middle East Austral Middle x 4 x 5

Ratio to 2005 traffic



Airlines based in the Middle East and Asia are expected to develop more quickly than airlines based in other regions, growing by an average of 6.4% and 6.2% respectively. This is fuelled by the aspirations of airlines and in some cases the countries themselves, as well as access to burgeoning markets driven by liberalisation and a growing propensity to travel.

average during this period, as air transportation and its benefits continue to be more evenly distributed world wide.

expected to register growth higher than the global

Meanwhile, the airlines of North America and Europe, some of the most significant in the world in terms of their aircraft fleets and traffic, will continue to grow strongly from an already powerful base, averaging 3.9% and 4.6% per annum respectively over the next 20 years.

The airlines of Latin America, the Commonwealth of Independent States (CIS) and Africa are also

Asia to lead in world traffic by 2025







As a result of these developments, the way that traffic is distributed between regions is expected to evolve. The biggest change will be traffic becoming much more evenly shared across the world, with Asian airlines forecast to represent 32% of traffic, an impressive six percentage points increase when compared to the end of 2005. This having been said, flows which involve North America and Europe are also expected to remain significant. Seven of the top ten flows in terms of

India: international growth high, domestic even higher





actual traffic added are forecast to involve the US, Western Europe or both. The US domestic market is still expected to add the most RPKs in the next 20 years, with the Chinese domestic flow next in importance (by this measure).

Demand for passenger aircraft

Asia-Pacific From the "world's producer" to the "world's consumer"

he Asia-Pacific region remains very dynamic with its economy expected to grow at 7.8% in 2006 (excluding Japan). Indeed, Asian economies have been oblivious to the repeated external shocks of the 2000-2006 period, continuing to grow at an average of 6% per year, some four points above that achieved by the Organisation for Economic Co-operation and Development (OECD) nations as a whole.

And the outlook for Asia continues to improve, amid growing optimism for China and India. Over the next five years, Asian economies (excluding Japan) are expected to grow steadily at nearly 7% per year. Even Japan's economy is on track to mark its longest expansion in the last 50 years.

Meanwhile, with India's buoyant industrial sector emerging to join the other drivers, Asian exports are expected to achieve a robust 9% annual growth for the next five years. The export market will be particularly strong for high value consumer and technology goods, which is a very positive development for the air cargo business.

However, the most important factor influencing Asia's outlook in the next few years, will come from its 3.5 billion consumers. A new paradigm is emerging that will shift our view from Asia as "the world's producer" to "the world's largest consumer". Long term, this will bring positive structural forces to the region: a rising wave of middle class consumers, an emerging household credit culture, a demographic sweet spot of a younger and more consumerist generation, and a generally freer, more 'laissez faire', lifestyle. More mature Asian economies will also benefit from having India and China effectively in their "backyards".

As well as benefiting greatly from this new paradigm, air transport in the region will be stimulated by progressive liberalisation and an expansion of low cost carriers, in a market environment that is especially price sensitive.

As might be expected from the world's most dynamic region, the demand for international air travel in Asia-Pacific will grow well above the world average, at 6.1% per year for the next 10 years. Asia-Pacific airlines currently operate the world's

largest long-range aircraft fleet and will remain the largest market for aircraft in this class. The total passenger fleet in operation will grow from 2,781 to 7,542 aircraft over the next 20 years.

Driven by Indian and Chinese trade, the Asian freighter fleet will increase more than five fold, from 229 dedicated freighters in 2005 to 1.223 in 2025. This growth will serve the buoyant international freight market and the emerging domestic express freight market, as well recapturing market share from non-Asian competitors.

As a result, Airbus anticipates that the domestic and intra-regional market will be the most significant flow in terms of annual growth, with an impressive 7.8% over the next 10 years.

Over the next 20 years there will be an increase in the share of single-aisle aircraft within the Asia-Pacific fleet. At the same time very large aircraft, such as the A380, will be needed on routes between the region's large hub cities: in fact, all existing Asian customers for the A380 plan to operate the aircraft between the major population centres that form those hubs.

Asia-Pacific



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Asia: a new paradigm in the making Source: Global Insight, Lehman Brothers, Airbu



Isia has the making of a new economic paradigm vith positive long term structual forces:

- more "laissez faire" lifest
- Rapid urbanisation



RPKs growth: average per annum 2006-2015

Asia-Pacific air transport demand summary Passenger aircraft ≥ 100 seats

cific – traffic (yearly growth)	2006-2015	2006-2025
ssenger traffic	7.0%	6.0%
c & intra-regional traffic	7.8%	6.4%
onal traffic	6.1%	5.5%
eight traffic	7.6%	6.8%
cific – fleet in service	2005	2025
ger	2,781	7,542
r	229	1,223
	3,010	8,765

North America The largest single-aisle market in the world

he United States (US) economy, which is the main economic driver of the North American region, has grown strongly since the last Airbus market forecast, in spite of the high oil prices experienced in the 2005 and 2006. This growth has started to moderate with economists predicting slightly slower growth in the short to medium term as opposed to anything more recessional. This gives confidence that the considerable progress made in the region and by airlines in particular, can be capitalised on in the coming years.

The airlines, particularly the network carriers, have contended with a succession of industry shocks over the last five years, in addition to other factors such as increased competition, over capacity and cost issues (which included labour and rising fuel prices). In response, the industry made some very difficult decisions, including a number of airlines entering Chapter 11 bankruptcy protection. Today, airlines in the region are seeing the benefits in terms of increased profitability, with their financial outlook having improved with each month of 2006.

Underpinning this progress has been the improvement in yields witnessed since 2005, in particular on the important US domestic market, which typically represents 70% of the country's total traffic and where growth is now in line with that seen on other market segments. Airlines have also examined their networks and have refocused

40 Global Market Forecast Regional demand

US domestic yield growth recovers to match other flows Source: The Air Transport Association, Airbus



Domestic Atlantic Latin Asia-Pacific



capacity on more profitable sectors, in many cases international routes, while at the same time protecting important domestic feeds to their hubs. Highlighting this deliberate shift, it is evident that the removal of capacity from domestic to international service has been almost identical in terms of the Available Seat per Miles (ASMs) or the capacity transferred.

Today more than 40% of the US fleet can be 1,000 classified as either old or mid-generation aircraft, which are not as efficient as the new generation aircraft like the A320, especially in a high fuel price -1.000 environment. The airlines concerned are expected to address this issue in the coming years, to further -2.000 optimise their operations and reduce costs.

The strategic shift of some US airlines towards international operations has resulted in opportunities for others, with the burgeoning low cost carrier (LCC) segment willing to expand their services in the region. This segment represents about a guarter of all traffic on the US domestic network and has shown a three-percentage point rise in market share since January 2005. Meanwhile, the high traffic growth rates of 23.8% experienced by the regional airlines in the US in 2005 have now moderated. Today, US regional airlines represent 12% of the country's domestic traffic.

4,000 3,000 2,000

-3,000

25%

24% 23%

22%

Network airlines refocus on their international network

Maiors refocus their business Source: Airline Monitor, Airbus





Traffic for North American airlines grew 6.1% in 2005 compared to 2004, according to the International Civil Aviation Organisation (ICAO). On examining the US, whose airlines represent 91% of total regional Revenue Passenger Kilometres (RPKs), it is clear that traffic has increased by 16.6 points relative to 2003. It is interesting to note that this growth has largely been achieved through productivity gains (15.4 points) rather than the addition of extra capacity (1.2 points). Much of this productivity improvement has been driven by load factor gains, which have regularly hit record highs over this period, representing 6.7 points of the growth. This contrasts with the world as a whole, for which load factor improvement represented just 5.6 points of a traffic growth of 21 points for the same period. This has been the result of vigorous capacity control, the reallocation of capacity to more lucrative routes and the airlines' desire to drive up their Revenue per Available Seat Mile (RASM) during this period. Increase in stage length has also contributed to traffic growth in the US, representing four points of the 16.6 points increase. This has been driven in

Dramatic productivity changes from 2003 to 2005 Source: IATA WATS





Domestic market maturing, international still developing

part by the international aspirations of the majors and increased trans-continental operations by the US low cost carriers.

North America is the largest and most mature of the regional markets. This is reflected in the fact that 20-year average annual growth is forecast to be below the world average at 3.8%. However, due to its already significant size, the market to, from and especially within the region, will remain extremely important in the future. The international market is expected to grow faster than domestic or intra-regional traffic at 5.2% for the next ten years and 4.9% for the complete 20-year forecast period. This is caused by the need to connect North America with other quickly developing regions, both economically and in terms of air transportation. These include flows to Asia-Pacific with 5.8% growth, the Commonwealth of Independent States (CIS) with 7.0% and the Middle East at 9.7%.

Therefore, over the next 20 years, the region's fleet is forecast to grow from 4,133 to 7,402 passenger aircraft, as a result of increased passenger demand and the need for replacement aircraft, in particular in the single-aisle market segment.



North America air transport demand summary Passenger aircraft ≥ 100 seats

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- North A
- Passen Freighte Total



North America

RPKs growth: average per annum 2006-2015

merica – traffic (yearly growth)	2006-2015	2006-2025
ssenger traffic	3.9%	3.8%
c & intra-regional traffic	2.8%	2.7%
onal traffic	5.2%	4.9%
eight traffic	5.9%	5.5%
merica – fleet in service	2005	2025
jer	4,133	7,402
r	1,006	1,948
	5,139	9,350

Latin America and the Caribbean More market access, more inter-regional flying

ross Domestic Product (GDP) in the region is projected to grow by 4.7% in 2006, which although slightly slower than 2004, is still characterised as strong, being well above the 2.5% average growth of the preceding 20 years. Long-term projections expect the region's economy to return to more sustainable levels, with projections of around 4% per year over the next 10 years: growth which is expected to continue to drive development in the region.

With this growth and a number of the region's countries recovering from recession in recent years, the airlines have continued to build their fleets and networks. Tangible evidence of the growing strength of the region can be seen in the average age of the fleet (now 13.7 years old), which is now two years younger than it was a decade ago. This has been achieved through the introduction of numerous new single and twin-aisle types in recent years, by an increasing number of regional trend setting airlines. The younger fleet has helped in bringing these airlines profitability through 20% better aircraft utilisation.

As in other developing regions, the gradual liberalisation of the Latin American market has continued. The latest step, an agreement between Brazil, Argentina, Chile and Peru, allows for a level of fifth freedom rights.

Latin American average fleet age declines Source: Airclaims, Airbus





Meanwhile, El Salvador, Guatemala, Honduras and Nicaragua, have moved a step closer to a single Central American aviation market, with an agreement that calls for more relaxed customs and immigration controls and the treatment of flights between these nations as "domestic" for the purpose of airport user charges. Such moves, although not as rapid and wide ranging as in some other regions, will nevertheless encourage further growth in Latin America. Liberalisation agreements are expected to boost the relatively untapped, but potentially large, trans-border markets within Latin America. These measures have also coincided with increased tourism in the region in recent years, which has seen, for example, 54% growth in Peru, 48% in Brazil, 34% in Argentina and 32% in Central America.

Traffic growth in Latin America during the next 20 vears is forecast to exceed the world average at 5.3% per annum. It will be slightly higher over the next 10 years to 2015 at 5.8%. New and emerging markets to Africa and the Commonwealth of Independent States (CIS) are expected to exhibit the strongest growth, with 9.0% and 8.9% respectively. Traffic within the region is also expected to grow strongly at an average annual rate of 6.1%.

As a result of the forecast traffic growth and deliveries, new and used, Airbus predicts that the fleet of passenger aircraft in Latin America will more than double from 818 aircraft to 1,945 over the next 20 years.



Passenger aircra

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Latin America

RPKs growth: average per annum 2006-2015

Latin America World 2006-2015 2016-2025 20-year 2006-2015 2016-2025 20-year arowth arowth 4.8% 5.3% 5.3% 4.4% 4.8%

Latin America air transport

demand summary

aft	≥	10	00	se	ats	

nerica – traffic (yearly growth)	2006-2015	2006-2025
ssenger traffic	5.8%	5.3%
c & intra-regional traffic	6.1%	5.6%
onal traffic	5.6%	5.2%
eight traffic	6.6%	5.9%
nerica – fleet in service	2005	2025
jer	818	1,945
r	74	172
	892	2,117

Europe Maturing traffic in a dynamic region



LCCs penetrate every market Source: OAG, Airbus



Ithough perhaps not as dynamic in terms of economic growth as some other regions, European economies have continued to grow, with the underlying growth fundamentals better in 2006 than those witnessed in the previous five years.

This steady growth has seen the region's airlines continue to increase passenger traffic. The Association of European Airlines reported traffic growth of 5.3% between January and August 2006, with load factors also continuing to improve.

A significant portion of the growth in domestic and intra-European capacity, as much as 90% in 2006, has been through the activities of the low cost carriers (LCC). The large number of LCCs perhaps indicates the varying business models within this group of airlines. However, they have undoubtedly stimulated traffic and now represent a significant market presence in the region, with a 25% share in terms of capacity and as many as 60 airlines operating in the region which can be classified as an LCC.

If the top 100 European catchment pairs are examined, it is clear that these airlines are now present on most markets, underlining their market penetration, even from as recently as 1995. LCCs have been quick to take advantage of the new business opportunities in the region. For example following the expansion of the European Union (EU) in 2004, with the membership of an additional 10 nations, airlines were quick to step in to meet the needs of business and leisure travellers, keen to take advantage of these developments. This trend is set to continue with Romania and Bulgaria scheduled

to join the EU in 2007 and others likely to follow. Therefore, air traffic within Europe will remain the second most significant flow, with nearly 12% of all the world's traffic flown within the region. The LCCs are also looking further east, with Russia and other countries in the former Soviet Union likely targets, as these airlines continue their search for new route opportunities.

However, the mainline carriers have also continued to benefit from recent market conditions and have been largely successful in further developing their core markets. This has been particularly true on international flows where, as in the US, load factors and yields have improved, bringing benefits to the airlines. By 2025, 12 of the top 20 passenger traffic flows will link to Western Europe, with the trans-Atlantic flow from Western Europe to the US expected to grow by 4.3%, representing 7.3% of the world's traffic and maintaining its position as the most important international flow. This is a fact not 85% missed by the large European international carriers, who are currently evaluating their future capacity and aircraft requirements.

Airlines in the region recovered relatively quickly from the succession of negative events that have taken place since 2001. One tactic, which has proved successful, has been to maximise the utilisation of their most efficient aircraft, the result being a marked improvement in load factors on the airlines' most important markets. In 2005, trans-Atlantic market load factors stood at close to 83%, with 2006 levels expected to be similar.

- - -



Improved load factors in Europe

Source: The Association of European Airlines. Airbus

factor	
	Europe - Australasia/Asia
pe - North Atlantic	
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	Europe - Regional & Domestic
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Dramatic productivity changes from 2003 to 2005

Source: IATA, Airbus



Another factor has been the robust demand witnessed since 2003, with relative traffic growth up 20.1 points to the end of 2005. The largest productivity gain has been achieved by a 9.1 points increase in the number of daily flights per aircraft, mostly through improved aircraft turnaround times. In addition, the size of aircraft increased by 1.5 points over the two year period.

Over the next 20 years, European traffic is forecast to grow 4.8% equalling the world annual average growth. Over the next ten years, domestic and intra-regional growth is expected to remain robust at 4.6%. International traffic is expected to grow slightly more quickly at 5.5%, with Asia-Pacific (6.0%), Latin America (6.0%), the Commonwealth of Independent States (CIS) (6.6%) and the Middle East (7.3%) all expected to grow at significant levels.

As a result, the European passenger aircraft fleet is expected to double from 3,296 to 6,978 by 2025.



Europe

RPK growth: average per annum 2006-2015



Europe air transport demand summary Passenger aircraft ≥ 100 seats

Europe – traffic (yearly growth)	2006-2015	2006-2025
Total passenger traffic	5.2%	4.8%
Domestic & intra-regional traffic	4.6%	4.3%
International traffic	5.5%	5.0%
Total freight traffic	6.2%	5.6%
Europe – fleet in service	2005	2025
Passenger	3,296	6,978
Freighter	248	632
Total	3,544	7,610



vear wth	
%	

Regional demand Global Market Forecast 49

The Commonwealth of Independent States Economy and international flying develop together

ver the last 15 years the political and business landscape has changed radically for the 12 states that form the Commonwealth of Independent States (CIS). As a result, so has the air transportation system that serves them domestically and internationally. With the availability of better historic data over this period and a number of positive developments in the region, this Airbus market forecast includes the CIS airlines in their entirety.

Developments in the region have been underpinned by an impressive economic performance, with seven consecutive years of rapid growth reaching an average of 7.9% in 2003, 8.3% in 2004 and 7% in 2005. Macroeconomic policies will remain relatively expansionary for the next few years; therefore, experts believe that growth in the region will remain solid, at least in the short term, with a long-term trend rate of 4.3% per year (compared to a global trend of 3.1%).

The capacity offered to, from and within the CIS nations has grown steadily, with the total number of monthly seats increasing from 3.7 million in 2000 to nearly six million in 2005.

Russia remains the region's dominant nation in terms of both the economy and air transportation, with all forms of travel representing a growing share of consumer expenditure. In September 2005, more than 88% of the CIS's available domestic capacity was within Russia, which also accounted for 87% of the demand for intra-regional connections.

However, while Russia also remains the region's dominant country in terms of capacity on international flows, other CIS nations now represent

Share of capacity in the CIS



CIS international traffic will grow strongly RPKs growth: average per annum 2006-2015





an ever-increasing share. In 2005, while Russia was still adding capacity in real terms, the other CIS nations had grown more quickly and had increased their share to 36%, in comparison to just 13% in 1992.

This growth is even more evident when the number of new and existing significant city pairs (more than 5,000 seats per month) is studied over time. In fact, since 1992 the number of city pairs operated with the CIS (excluding Russia) has grown from eight to 54. So, while there is no doubt that Russia will continue to play a very important role in the evolution of the region, it is clear that other CIS nations are also beginning to focus on more global activities.

As in recent years, traffic to, from and within the CIS will continue to grow strongly, remaining above the world average at 6.1% until 2025. In particular, the next ten years are expected to give 6.8% growth.

International markets start from a smaller base, but are expected to grow slightly more quickly than domestic or intra-regional traffic, which is forecast to grow by 6.8% in the next 10 years. Traffic to Asia-Pacific, North America and the Middle East are all expected to grow by more than 7%, with Latin America expected to grow at the very respectable level of 8.9%.

As a result, the passenger fleet for the CIS is expected to grow from 716 today to 1,187 aircraft by 2025. Many of these are expected to be the single-aisle aircraft (like the A320) that are currently prominent in the region's fleet. Productivity levels will increase as the region continues to replace its existing fleet with more efficient new build aircraft.





CIS air transport demand summary

CIS – tr Total pa Domest Internat Total fre

Passen



CIS nations spread their wings

Excludes routes to and from Russia

Passenger aircraft ≥ 100 seats

affic (yearly growth)	2006-2015	2006-2025
issenger traffic	6.8%	6.1%
ic & intra-regional traffic	6.8%	6.2%
ional traffic	6.9%	6.0%
eight traffic	6.8%	5.7%
eet in service	2005	2025
ger	716	1,187

Africa Home to the next India?

ith such incredible variety in terms of geography, climate and culture, it is perhaps unsurprising that Africa's air transportation needs are equally diverse. This is why the Airbus market forecast divides the region into three distinct sub-regions: North Africa, Sub-Saharan Africa and South Africa.

Africa is probably the continent with the largest number of emerging nations. Following countries like China and India, African countries will also move towards greater air transportation access. In fact, in terms of air transportation growth, it is possible that the next 'India' will come from this region.

In recent years, access to natural resources such as oil, gas, copper and coal, has made Africa (particularly Angola and Nigeria) a valuable trading partner for many other countries, including China, Korea and India.

So far, these relationships have generated rapid foreign direct investment (particularly in the energy sector), expansion in the construction sector and improved performance in agriculture, which will be some of the enablers for continued economic development.

Africa is also keen to attract lucrative tourist dollars and, according to the World Tourism Organistation (WTO), was the only region to have a higher growth rate in 2005 than 2004. Indeed, following an average growth of 6% between 1990 and 2000, it achieved 8% growth in 2004 and 10% in 2005.

Growth was strongest in Sub-Saharan Africa, which achieved 13% in 2005 against 5% in 2004. In Kenya, tourism traffic grew more than 25% in 2005 as a result of being granted Chinese Approved Destination Status (ADS) in 2004, which saw the number of Chinese inbound tourists double to 11,000. Today, there are at least 16 African countries with ADS, including Egypt and South Africa, with new countries are being added every year. In 2005, 110,000 Chinese visited Africa on holiday, double the previous year.

Prospects for continued growth look good: tourism infrastructure continues to be developed and a number of countries. like South Africa. Kenva and Namibia, are capitalising on the growing demand for eco tourism. The massive worldwide media coverage that will accompany football's 2010 World Cup will also accelerate international recognition

China gives a boost to African tourism





South Africa 2003* +69% (in 3 years)





+661% (in 3 years)

of sub-Saharan Africa as a tourist destinations, boosting the largely untapped markets beyond Europe, where the number of routes to and from Africa have doubled since 1995.

Like other regions, Africa has endeavoured to create a more liberal operating environment. A good example of this is the Yamoussoukro Declaration, which was implemented in August 2000 to help accelerate liberalisation and access to the region's air transport market and is one of the most ambitious of such agreements of recent times.

Various airlines now able to operate a selection of intra-regional routes, as well international routes to destinations like London Heathrow and Dubai. In addition, a number of low cost carriers (LCCs) are starting to appear: a familiar pattern that has been witnessed in other emergent markets. However, it is clear that there is potential for much greater access in the region and that there are many opportunities to expand the market still further.

The growing regional economy, a flourishing tourism industry, gradual liberalisation and the beginnings of an LCC sector, will all drive an increase in passenger traffic in Africa. Therefore, Airbus forecasts that Revenue Passenger Kilometres (RPKs) will grow above the world average, at 5.4% per annum over the next 20 years, with more significant growth over the next ten years at 6.2%. Intra-regional traffic also has the potential for impressive growth at 7.6% per annum.

Likewise, international markets are expected to grow significantly. Traffic to North and Latin America is forecast to grow by 8.6% and 9.0% respectively and traffic to Asia-Pacific will increase by 6.9% per annum over the next ten years. As a result the African passenger aircraft fleet is expected to more than double to 1,058 aircraft over the next 20 years to serve the strong demand.



African intra-regional traffic set to grow strongly





Tourism in Africa growing strongly

Source: IMF. World Tourism Organisation. Airbus

International tourist arrivals and economic growth (GDP)

RPKs growth: average per annum 2006-2015

Middle East Trend setting airlines with emerging global hubs

he pursuit of a Gulf region built upon a highly liberal trade policy, that is business friendly and has a market oriented growth strategy, has brought prosperity to the Middle East. Taking strength from its own dynamic economy, visionary infrastructure development and geographical situation, the Middle East has emerged as a key centre for international air traffic. Over the last 10 years Dubai has evolved into a global hub, progressing from the 26th to the 10th largest international hub in the world in terms of international traffic.

Trend setting airlines from the region have successfully taken advantage of the region's location to attract international passengers on their way from Asia to Europe and Africa. Modern aircraft such as the A340 or A380 have placed the Gulf region at the centre of the world, because with ranges in excess of 8,000 nautical miles (14,900 kilometres), they can fly non-stop to virtually every destination.

The Middle East is not only growing because of its own economic development, but is also benefiting from having three major and rapidly developing markets in its own backyard: Russia, Eastern Europe and India. All three destinations are easily accessible to single-aisle aircraft, like the A321, which has been successfully introduced on these routes. In fact, demand for single-aisle aircraft in the region will be higher than ever before as a result of increasing intra-Middle East traffic and the opportunities available to the promising and emergent low cost carriers.

2006 traffic to/from Middle East well above 2000 levels

Source: OAG. Airbus Passengers - September ASK - 2006 vs. 2000



The Middle East has a geographical advantage





in its own right Source: Global Insight, Airbus

	NI
	IN
35,000	[-
30,000	+
25,000	
20,000	
15,000	+-
10,000	
5.000	.

0

The dynamism and entrepreneurial spirit of the region is now bringing tourism and business traffic in its own right, representing half of the arrivals in the United Arab Emirates and Qatar. Both tourism and business traffic to the entire Middle East has grown at a steady pace, 7.2% and 8.0% per year respectively, contributing to a quadrupling of the expected Origin and Destination (O&D) traffic from 1990 to 2010 in the region.

Influenced by the strong Indian economy, the Middle East's air traffic is expected to continue its growth at 7.1% per year for the next 10 years. The 6.3% growth per year to India, mostly due to the price sensitive Indian migrant workers in the Gulf, will be another short/medium-haul market requiring a very large aircraft such as the A380. Already this flow is twice as large, in terms of passengers, as Europe to India.

The Middle East passenger fleet is anticipated to grow from 461 aircraft in service today to nearly 1,195 in 2025.



Total fre Middle Passen

Middle East

7.1%

Passenger aircra

Middle

Total pa Domest Internat

Freighte Total

The Middle East has developed strong **Origin and Destination (O&D) traffic**

Tourism to Middle East

umber of tourists (thousands)



1990 1995 2000 2005 2010

Business Travellers to Middle Fast





Middle East air transport demand summary

East – traffic (yearly growth)	2006-2015	2006-2025
ssenger traffic	7.1%	6.2%
c & intra-regional traffic	6.4%	5.5%
onal traffic	7.2%	6.3%
eight traffic	5.3%	4.7%
East – fleet in service	2005	2025
jer	461	1,195
r	29	36
	490	1,231

Passenger aircraft demand Far eastern promise

New aircraft demand by region: Asia now number one



New passenger aircraft demand

	2006-2015	2016-2025	2006-2025	% of world demand
Asia-Pacific	3,432	3,310	6,742	31%
North America	2,827	3,220	6,047	28%
Europe	2,603	2,964	5,567	25%
Latin America	696	702	1,398	6%
Middle East	408	532	940	4%
Africa	283	335	618	3%
CIS	200	348	548	3%
World Demand	10,449	11,411	21,860	100%

ver the next 10 years, the world's airlines will require 10,449 new passenger aircraft with more than 100 seats to accommodate the demand for air travel and renew their ageing, less efficient fleets. Although air travel growth in the larger, more mature domestic markets of North America and Europe will slow in the following decade, demand for aircraft, driven by a higher number of replacements during that period, will continue to be strong, with another 11,411 new aircraft required. The 20-year market demand of 21,860 aircraft will be worth \$2.4 trillion.

As regional markets move at different speed and are stimulated by different economic, demographic, geographic, regulatory and air transportation structural forces, demand within each region will also differ.

In the Americas, single-aisles will represent 80% of the total demand for aircraft with more than 100 seats. European and African demand will be more evenly spread across market segments, while the Middle East and Asia in particular will represent a larger share of demand for twin-aisle and very large aircraft.



The Asia-Pacific region, with its large emerging markets, is expected to take the largest share of deliveries. Airbus expects demand for 6,742 new aircraft in Asia-Pacific, representing as much as 31% of the total world demand over the next 20 years.

The United States (US) and Europe are expected to take a similar number of aircraft, representing 28% and 25% of total deliveries respectively. The rest of the world is expected to take the remaining 16%, with Latin America representing 6% of these

New passenger aircraft demand will average 1,093 per year



Growth in air travel demand will be met by 21,860 new aircraft

deliveries. The following sections examine some of the trends and forecast details for these regions.

Worldwide, airlines will require an average of 1,093 passenger aircraft deliveries per year, of which 70% will be single-aisle aircraft. Long-range aircraft will represent a larger share (58%) of business volume. Very large aircraft, such as the A380, represent as much as 16% of the total value.

World passenger demand will be met by 21,860 new and 4,842 recycled aircraft

Passenger aircraft ≥ 100 seats, freighter excluded







The world airline fleet of passenger jets with at least 100 seats will grow from 12,676 aircraft today to 27,307 in 2025 to meet demand. Airlines will need to acquire aircraft not only to accommodate growth, but also to replace older, noisier and less efficient aircraft, which have lower utilisation and rising maintenance costs the more they age.

7,200 aircraft to be replaced by more efficient ones

Over that period, 95% (12,071 aircraft) of today's fleet will leave their initial operator creating an opportunity for a new aircraft to be placed. Of those12,071 aircraft, 4,842 will be "recycled" back into passenger service through sale, lease or lease extension. The remaining 7,229 will be replaced by new aircraft and will leave passenger service, either to be definitively retired (withdrawn from use), converted to freighter or to other non-airline roles.

The lack of available new single-aisle aircraft slots from manufacturers and leasing companies, combined with strong demand from the emerging nations and relatively few suitable second-hand or used aircraft, will make it more difficult to replace in-service aircraft with new ones in the short term. However, high fuel prices, a desire by airlines to further reduce costs through operation of new-generation aircraft and a pent-up need to retire aircraft from the US network airlines, will all contribute to an acceleration of aircraft retirement thereafter.

Aircraft replacement is largely driven by historical delivery patterns and tends to take place in a series of "waves", which can also be influenced by economic cycles and product developments. Fuel prices have historically triggered or accelerated aircraft retirements. The capacity shortfall of the late nineteen nineties, further exacerbated by the 2001-2003 slowdown in traffic, prevented normal attrition and resulted in a wave of retirements starting in 2003.

In recent years, market conditions, including increased competition, the need to reduce costs and fuel price, have driven the need for increasingly efficient operations and aircraft. Retirements include both old-generation aircraft and mid-generation, single-aisle aircraft such as MD80s and 737-300/400s. This trend is being further stimulated as airlines seek additional efficiency through the rationalisation of fleet types, making some of these out of production aircraft obvious candidates for replacement. Such retirements, combined with the growing importance of the low cost carriers, whose business models are largely based on operating efficient new aircraft, mean that the single-aisle fleet has become younger. However, there are still some 4,500 mid-generation aircraft in service worldwide that will need to be replaced, including many over the period covered by this forecast.

The Airbus forecast is primarily based on the actual fleet replacement plans of each airline. Where an airline plan was not available, a default replacement age was determined through detailed analysis of the airline's previous aircraft replacements and the region in which it is based. This varies from 20 years for airlines in Asia-Pacific and the People's Republic of China, to 25 years for airlines in the Commonwealth of Independent States (CIS) and sub-Saharan Africa.

> Higher fuel prices trigger retirements





More efficient aircraft, traffic management and airlines lead to better fuel use

The replacement of more than 7,200 older aircraft with new generation models will further improve the fuel efficiency of the world's fleet. The improvement in operating costs at a passenger or trip level, has been and will always be a key driver in the aviation industry, whether from a manufacturer or airline perspective. As fuel is the highest cost item of airline operation, aircraft competitive evaluations are largely based on fuel consumption characteristics. It is, therefore, absolutely vital for all aircraft and engine manufacturers to focus in reducing fuel consumption to be competitive. As a result, air travel has become increasingly fuel efficient, with an estimated 37% reduction in consumption per 100 passenger kilometres over the last 20 years, from eight litres in 1985 to five for today's aircraft fleet. This has been achieved through more efficient aircraft, operations and engines.

This improved aircraft efficiency has come from the ongoing introduction of technological innovations into new aircraft programmes, a trend that will continue. New generation aircraft such as the A380 and the A350 (to be introduced in the next few years) all consume less than three litres of fuel per 100-passenger kilometres.

As well as technology, a better allocation of capacity has resulted in load factors achieving historic highs (averaging from 69% in 2001 to 75% in 2005), improving fuel efficiency by 9% from 2001 to 2005.

Air travel increasingly fuel efficient

Average fuel consumption of the world passenger fleet





In future, further improvements can also be expected through more efficient traffic control and management. According to the Association of European Airlines (AEA) up to 18% of fuel burn, with its associated emissions, could be reduced by avoiding holding patterns at congested airports or by more direct routings. Airbus actively participates in research to provide products that embody the latest advances in traffic management, in particular in the area of Reduced Vertical Separation Minima and Future Air Navigation Systems.

Over the next 20 years the trend towards greater fuel efficiency is expected to continue. Airbus actively participates in the "Vision 2020" research programme of the Advisory Council for Aeronautics Research in Europe (ACARE), which addresses the environmental research challenges faced by the aerospace industry. Airbus is fully committed to working towards achieving the ACARE objectives of a 50% carbon dioxide reduction by 2020.



New generation single-aisle 40% more fuel efficient than older generation

50 nm sector, 2 class seating

Block fuel per seat difference (%) 45 _-----+42% -----+21% ------ - -- - -- - datum A319 MD82 737-200 New generation Mid-generation Old generation

> ...to less than 3 litres of fuel per 100 passenger km for the A380



Forecast frequencies grow 3.6% per year, capacity 0.9%

The combined productivity parameters will deliver 0.6% of the yearly growth in Revenue Passenger Kilometres (RPKs). Consequently, to accommodate the forecast average annual traffic growth of 4.8%, the world's airlines will have to increase the number of mainline seats they operate at an average annual rate of 4.3%. These additional seats will be provided partly by an increase in the number of aircraft operated and partly by an increase in the number of seats per aircraft.

Frequency and capacity needed

Frequency and capacity is distributed depending on the specific characteristics of each of city-pairs in the 152 traffic flows forecast, with the observed development of all worldwide city-pairs at different stages of maturity and liberalisation. In reality, as service starts on a particular route, airlines will typically offer one flight per day as soon as possible and then increase the frequency to capture market share and stimulate demand. The benefits of convenient schedules, however, reach a point of diminishing return. There is a "maximum" level of frequency beyond which any further increase will not in itself generate any more travel demand, as a satisfactory level of passenger service is attained and the additional cost associated with more frequency grows faster than the additional revenues.

Today, there are a handful of examples of domestic city-pairs with 60 daily flights, equivalent to one every 12.5 minutes, in mature markets. A fact that can be demonstrated when flights from such markets are plotted, showing the actual frequency and range for each city-pair.

The GMF assumes liberal frequency development

Total daily flights (all airlines combined)



As traffic grows on any particular route, the extent to which it will be accommodated by an increase in aircraft seat capacity, as opposed to an increase in frequency, will depend upon where it is situated between the two thresholds.

This analysis for each airport-pair leads Airbus to predict that during the next 20 years, assuming that the infrastructure is able to cope, airlines will increase the number of departures they offer at an average annual rate of 3.6%. Some 0.2% of that growth will be generated by an increase in the number of departures per aircraft. This is significantly higher than the 2.5% per annum increase achieved since 1980 and will present a major challenge to the world's airports and air traffic control systems.

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Airport constraints to limit frequency increase

A limit to frequency growth





Single-aisle aircraft demand 70% of the total volume

Single-aisle fleet will grow to more than 20,000 aircraft





y 2025, the world's major airlines will need 19,818 single-aisle passenger aircraft to accommodate traffic growth and renew their fleets. Of these, some 4,488 will be provided by aircraft being recycled back into the fleet after being replaced by their current operator and 15,330 will be new deliveries.

The demand for mainline single-aisle aircraft will be largely focused in North America and Europe, although deliveries to the Asia-Pacific region, with its growing low cost presence, will total 3,932 deliveries or 26% of total worldwide single-aisle deliveries. Latin America, the Middle East and Africa will take a significant 12% of deliveries between them. The stimulation of traffic from the Mexican start-up airlines and the next wave of aircraft retirements from existing airlines, will make Mexico the largest single-aisle market in Latin America.

Asia becoming a large single-aisle market Freighter demand excluded



Asian low cost carriers to drive single-aisle demand in Asia

Seven out of the top ten single-aisle airports are in the US

By 2025, the active fleet of 20,332 mainline singleaisles will be operating out of 1,653 airports, linking 11,289 airport-pairs. Unsurprisingly operations will be largely focused on domestic US routes and of the top ten airports, measured by aircraft utlisation, only London Heathrow, Roissy-Charles-de-Gaulle and Frankfurt, will not be in the US. Some 10% of the world's single-aisle fleet is forecast to be operating out of these ten airports by 2025.

But overall, compared with the total world fleet, the use of single-aisles will actually be relatively dispersed. Flights from the top 25 airports, led by Atlanta and Dallas Fort Worth, will absorb the productive capacity of 20%.

Single-aisle aircraft will be flown overwhelmingly on short flights; by 2025, 35% of the aircraft will be used on flights of less than 500 nm, the equivalent of Paris to Rome.

About a third of the demand for single-aisles will come from the replacement of older aircraft in the fleet. About 90% of the replaced aircraft will concern the fleet of the network airlines. The low cost carriers (LCC) will represent as much as 40% of the demand for growth. Over the next 20 years, the current LCCs will require a total of 4,600 or 30% of the world new single-aisle demand. The Asian LCCs are expected to develop their fleets quickly from a relatively low base of 236 single-aisle aircraft today, to about 1,300 by 2025.

5,000 4,500 4.000 3,500 3,000



LCCs Rest of world 27%



2006-2025 new regional jet and single-aisle demand



Number of new aircraft demand

Single-aisle demand: growth vs replacement



Twin-aisle aircraft demand 42% of the total value

Long-haul international traffic has and will continue to increase faster than domestic and regional traffic Source: ICAO, Airbus



Domestic & intra-regional traffic

Domestic & intra-regional traffic without India & China

2006-2025 new twin-aisle demand: 5,267 aircraft



espite the disruptions of the last five years, long-haul international travel continued to grow at 5.8% per year. Over the next five years, long-haul traffic will develop much faster than the short-haul market, especially for the developed economies.

It is interesting to note that the entire international long-haul market of 1985 will equal the traffic increment between 2024 to 2025. Therefore, it is not surprising that deliveries of twin-aisle aircraft will reach on average of 250 units per year in the next decade.

In the next 20 years, a total of 5,267 twin-aisle aircraft will be required. The largest segment will be in the 250 and 300 seater or small twin-aisle market. Although the 250 seat segment is the largest in terms of demand, a significant number of aircraft in that segment will include larger aircraft types, such as the A350-900 or the A340-300 (typically in the 300 seater segment) that will operate on long-range distances (see appendices).





Small twin-aisle demand

There will be 4,077 aircraft in service in this category by 2025. With 263 to be replaced by recycled aircraft, some 3,745 new aircraft will have to be delivered between 2006 and 2025. This market is covered by the A330 and the A340-300, as well as by the A350-800 and A350-900 in the future.

Unlike single-aisle aircraft, the North American market represents only 20% of worldwide demand, with airlines in Europe and Asia-Pacific taking 60% of all deliveries, in this class, some 2,252 aircraft. It is expected that most 767s currently in operation in the US and Canadian domestic markets will be replaced by single-aisle aircraft within the period covered by this forecast.

Europe will be an important market

By 2025, 4,077 small twin-aisle aircraft will be operating at 640 airports, linking a total of 2,918 airport-pairs. Over the next decade, small twinaisles currently operating in the US domestic market will, to a great extent, be replaced by large singleaisle types. The top ten airports include three in Europe and two in the US, with Narita and Beijing in Asia also featuring prominently. As a measure of concentration, flights from the top 25 airports will use the productive capacity of 35% of the fleet and 50% of the fleet will be used on flights from the top 47 airports, led by Beijing and London Heathrow.

As much as 70% of the small twin-aisle demand is concentrated with 50 airlines.

4,500





Small twin-aisle fleet will grow to more than 4,000 aircraft

Freighter demand excluded



Top ten markets for small twins to hub cities



1,522 new intermediate twin-aisles needed

Intermediate twin-aisle fleet will grow to more than 1,600 aircraft

Freighter demand excluded



Intermediate twin-aisles

The world's major airlines will operate a total of 1,635 passenger aircraft in this category by 2025; a market segment covered by the A340 today as well as the A350 in the future. 1,522 of these aircraft will be new, leaving 91 to be replaced by recycled aircraft. The distances and types of operation involved in the region mean that Asia-Pacific will need the bulk of all deliveries in this category, with 735 aircraft, or 4.8%, Europe will take 358 aircraft, or 24% and the growing Middle Eastern market will take 138 aircraft, or 9%.

Operations concentrated in Europe and Asia-Pacific

By 2025, 1,635 intermediate twin-aisles will be operating at 310 airports, linking a total of 1,027 airport-pairs. Operations will be spread globally, with only a small proportion of flights on US domestic routes. Of the top ten airports served, seven will be in the Asia-Pacific region and the remaining three in Europe.

Compared with the world fleet as a whole, operation of intermediate twin-aisles will be relatively concentrated, led by London Heathrow and Beijing airports. Half the aircraft will be used on flights from the top 26 airports, half will be used on flights of no more than 3,300 nm (roughly equivalent to Paris to Washington) and more than a 40% will be used on flights over 4,000 nm (roughly the equivalent of Hong Kong to Sydney).

2025

New twin-aisle (small and intermediate) demand concentrated in Asia-Pacific and Europe Freighter demand excluded





Intermediate twin-aisle operations will be concentrated largely on

Asia-Pacific and Europe



2016-2025	% of world deliveries
62	2%
	Contraction of the second
ld s	
58	
2016-2025	% of world deliveries
1,071	39%
d s	The second second
	2016-2025 62 Id s 2016-2025 1,071 d

4%



Very large aircraft Demand for 1,263 passenger aircraft

o maximise the profit potential of operations in an era characterised by severe price competition as well as increasingly stringent infrastructure and environmental constraints, airlines will operate 1,263 very large aircraft (VLA) such as the A380, by 2025.

Regional demand for VLA, including the existing commitments for 151 passenger A380s, will be centred on the Asia-Pacific region, with 708 aircraft, or 56%, of world demand. Europe's airlines will need 23%, or 292 aircraft to meet growing demand to the Asia-Pacific region, with North America and the Middle East taking 17%, or 219 aircraft, between them.

Large aircraft new deliveries concentrated in Asia-Pacific and Europe



1,263 new large passenger aircraft will be needed Freighter demand excluded

reighter demand excluded



44% of the aircraft to be centred on ten airports

By 2025, these large aircraft will be serving 180 airports, linking 427 airport-pairs and operating in a diverse set of markets. They will operate out of many of the airports that handle the 747, including the top 20, which currently account for 69% of 747 operations. Similarly, Airbus anticipates that flights from just these top 20 VLA airports will use the productive capacity of 853 aircraft, or 68% of the 2025 fleet of large aircraft. London, Tokyo and Hong Kong will require 231 large aircraft. Although Los Angeles is the only North American city within the top ten, San Francisco, New York and Chicago will use the productive capacity of 96 large aircraft. This is already confirmed by the routes announced of the current A380 customers.

The VLA will be used on the complete range of domestic, regional and intercontinental routes. Nearly one third of the fleet will be used on routes of up to 1,200 nm, the equivalent of Sapporo to Okinawa. Another third will be used on flights over 4,800 nm (roughly equivalent to Paris to Los Angeles). With many of the top routes being centred in the region, it is understandable that most of the aircraft deliveries in this category will be made to the Asia-Pacific region. However, with the strength of traffic between Europe and Asia and demand on some trans-Pacific routes, other regions' airlines, notably the Middle East, will take a significant share of VLA deliveries over the next 20 years.

SFO (20) **7 LAX** (49)



Routes announced by current A380 customers

Over 70 airports will be handling the A380 by 2011





Half of the top 20 large aircraft airports will be in Asia-Pacific







Top 20 freight markets in 2025

60

Air cargo Strong international growth. Two emerging express markets

6% traffic growth to 2025



2005 traffic 2006-2025 growth

irbus forecasts freight traffic for 144 individual domestic and international flows on the basis of historical traffic, economic data and two-way, country-to-country trade statistics. Analysing the type of goods exchanged (sub-segments of high-tech, consumer goods, food, perishable goods, etc.) is critical to traffic development, as their time sensitivity and value influences which type of transport is used: road, rail, sea or air.

Airbus forecasts that air freight expressed in terms of freight-tonne kilometres (FTK) will grow at a 6%

average annual rate over the 2006-2025 period. The United States (US) domestic market, still the largest with a 11.9% share of world FTKs in 2006, is also the most mature. Over the next 20 years, fast growing Chinese exports, as well as its emerging express market, will radically change the hierarchy of the top freight markets.

The export of more time sensitive, high-value and high-tech goods, has grown fastest among globally traded commodities, largely contributing to the growth of air freight. As the value of the goods being exported increases, so does their time sensitivity

Top 5 Cargo

markets 2005

Domestic - US

PRC - North America

Asia - North America

Europe - North America

North America - Europe

Top 5 Cargo

PRC - Europe

Domestic US

Domestic PRC

markets 2025

PRC - North America

Asia - North America

and the likelihood they will be shipped by air. For example, although high-tech goods from Asia to North America and Europe represent 31% of total exports in tonnage, they account for nearly 65% in value. High-tech exports from China to Europe and North America transported by air have grown steadily from a 38% share in value in 1995, to 58% of today's total.

next 20 years.

The major US express operators have reported a strong financial performance. However, this has resulted more from yield and traffic increases in the deferred delivery segment rather than from growth in

Share of 2025 freight traffic

Share of 2025 FTKs (FTKs growth: average annum 2006-2025 : average per



Cargo traffic development

FTKs (billions)



International Domestic Annual Average Growth Rate (AAGR) Freight Tonne Kilometers (FTK)

70	80	2006 - 2015	2016 - 2025	20 year growth	% of 2025 world FTKs
1		11.6%	8.1%	9.8%	14.6%
i		10.4%	7.8%	9.1%	7.8%
		3.5%	3.1%	3.3%	7.3%
		12.6%	9.1%	10.9%	5.1%
		6.6%	4.4%	5.5%	4.9%
		3.8%	3.6%	3.7%	4.0%
		7.2%	4.3%	5.7%	3.8%
		3.4%	3.6%	3.5%	3.1%
		9.2%	6.5%	7.9%	3.1%
		5.4%	4.1%	4.8%	2.6%
		9.1%	7.1%	8.1%	2.6%
		6.0%	4.6%	5.3%	2.3%
		3.8%	4.0%	3.9%	1.5%
		7.0%	5.0%	6.0%	1.5%
	1	4.7%	4.9%	4.8%	1.5%
1		5.3%	4.7%	5.0%	1.4%
		4.0%	3.8%	3.9%	1.4%
		7.6%	4.8%	6.2%	1.4%
		4.2%	3.2%	3.7%	1.3%
i	i	5.7%	4.6%	5.2%	1.3%

their core offering, such as next-day delivery. Airbus anticipates that the domestic US freight demand will grow at an average annual rate of 3.3% over the





More demand for high-tech goods means more air freight

China freight market

International freight traffic from the People's Republic of China (PRC) has expanded at 9.6% per year over the last ten years. This dynamic market has benefited from the shift in the types of commodities exported, towards higher value goods. It has also benefited from the transition by the country's electronics manufacturing sector, from mainly components manufacturing, to more final assembly and the integration of these electronic components. Over the last ten years for example, the number of computers assembled in China annually has grown from 840,000 to more than 45 million today. Hightech exports from the PRC have grown faster than any other goods and since 1995, have far surpassed consumer goods, such as clothing, in terms of the value exported. The often bulky, but necessarily secure packaging employed on high-tech goods results in low densities. For imports, the increased importation of machinery has resulted in greater densities on inbound air cargo flows. However, due to greater exports, in terms of both weight and importantly value, aircraft capacity is dimensioned by the higher tonnage and less dense outbound flows. This makes cargo aircraft with good volumetric payload particularly attractive on the rapidly expanding Chinese international air freight market.

International traffic is expected to grow by 6.7% per year over the next 10 years and 6.1% over the next 20 years. Among the top traffic flows, PRC to North America and Europe will be the two fastest growing international markets, 11.6% and 10.4% respectively by 2015.

Today's concentration of Chinese international airfreight in the coastal and southern provinces, will develop still further, with the Yangzi region representing three-quarters of total Chinese international air freight shipments by 2015.

Mainland China airlines today operate a fleet of 22 long-range aircraft or less than 4% of the worldwide long-range fleet, while the Chinese international cargo market represents more than 12% of worldwide air traffic. As strong air cargo demand continues, it is anticipated that the Chinese long-haul freighter fleet will develop quickly, from 22 aircraft in service today to 117 in 2025. Given the concentration of demand, and the type of goods transported, it is anticipated that there will be a greater proportion of large freighters in the 80 to 150 tons of payload category, than in any other region.

PRC air freight by commodity/value

Source: Merge Global, Airbus

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PRC air freight by commodity/volume Source: Merge Global, Airbus



Emerging domestic express markets in China and India

The freighter fleet dedicated to express parcels in China is very small today. Most domestic express freight is carried on trucks, passenger aircraft or added to general freight by the few dedicated operators within China.

A number of factors are expected to drive the express freight market in China and the corresponding demand for freighter aircraft in this segment. These include: the continued development of the Chinese economy, the importance of electronics and telecommunication component manufacturing and assembly, the shift toward more capital intensive manufacturing and lean manufacturing practices, the more vertical organisation of its production, the growing banking sector and increased domestic consumption. As a result, Airbus expects that a full express freight service will develop, as currently offered in the US and in Europe. This will not only require aircraft, but also ground infrastructure and personnel. The existing integrators (DHL, FedEx, UPS) are expected to substantially increase their current activities in China, either through joint ventures or directly. This expansion will be helped by provisions in the

be necessary.

Source: CAAC, Airbus

Share of international cargo volume 100% 80% 60% 3 main reaions



0%

1996

Southwest

Mid

Pearl

Bohai

Yangzi

US-China bilateral cargo agreement, which allows US carriers to establish domestic routes in China once they have reached certain levels of international service. Airbus anticipates a full-scale deployment starting towards the end of the decade, with 30 dedicated aircraft. Express traffic is forecast to grow at 12.5% per year on average until 2025, a conservative rate in light of experiences in the US and Europe. The emerging market will create a requirement for up to 250 dedicated freighter aircraft, with equal numbers of small and regional freighters, to serve the domestic express freight market.

The Indian express freight market is expected to develop in a similar manner, with its development already more advanced. Airbus anticipates a fleet growing from five aircraft in 2005, to 126 in 2025, with a larger proportion of small freighters. This estimate is based on the presence of an express hub in Hyderabad. Nagpur, also more centrally located but with less local population, is considered a suitable future location. Airport cargo infrastructures are already in development, however, supporting ground infrastructure will also

China's international cargo market is concentrated





Air cargo forecast Global Market Forecast 77

2005 Freighter operators and fleets

		Europe a	and CIS		
North Ameri	ca	Operato	rs Flee	t	
Operators	Fleet	36	257	en de la la	
41	1,006	Mid	dle East	Sec. Se	t in the second s
1947 - C.	Vin .	Ор	erators	Fleet	
	- Martin		8	29	
Latin Ar	nerica	Africa	51	Asia-Pacific	RN.
Operato	ors Fleet	Operators	Fleet	Operators	Fleet
17	74	19	49	32	229
		World		_	
		Operators	Fleet		
		153	1,644		

The freighter fleet will grow to more than 4,000 aircraft

Freighter fleet development

Today's active world freight aircraft fleet consists of 1,528 dedicated freight aircraft and 116 quickchange or combi aircraft. Of the 1,644 aircraft in service, 908 were converted from passenger service and 736 are factory-built freighters.

As much as 61% of the installed fleet is operated by North American carriers.

Freight carriers will not only need to expand their fleet in order to accommodate the sustained demand for air cargo, but also to replace an increasingly ageing fleet. In the absence of announced retirement plans, this forecast assumes that freighters are kept in service to the limit of their economic life, taken as 37 years for small jets and 35 years for other types.

The freighter fleet will grow to more than 4,000



Over 200 aircraft, mostly older 727s and DC8s, are now more than 36 years old and will need to be retired in the coming years. The next wave, which is due to begin by around 2011-2012, will include 727-200s. Long-range freighters will see a smoother retirement pattern as DC10-30s are removed and 747 combis are converted in the middle of the next decade. Then large freighter retirements will be marked by a large wave of 747-200 removals starting in 2015. These dates take no account of added pressure from possible new noise or safety regulations, or increased costs through, for example, fuel, which tend to hasten retirements.

Over the next 20 years, a total of 1,109 aircraft or two-thirds of the active fleet will be voluntarily removed from service.

Freighter role to grow

FTKs (billions)



Freighter fleet growth

A sizable part of air cargo is carried in the underfloor holds of passenger aircraft, as "belly" freight. Freight traffic typically grows faster than passenger traffic. Assuming that future passenger aircraft will have cargo capabilities comparable to current aircraft, the freighter fleet can be expected to grow faster than total freight traffic.

The 254% increase in traffic carried by dedicated freighters over 20 years will be achieved through a combination of a greater number and larger aircraft, higher utilisation and higher load factors. It is estimated that the freighter fleet will grow by 150% with average aircraft payload increasing 17% from 53.4 tonnes to 62.4 tonnes.

Beyond the aircraft themselves, Airbus expects that operators will fly their aircraft for more hours each year and will also be able to modestly increase 1.600 load factors. These two elements are expected to contribute another 22% to the FTK increase. 1,400

Taking these combined effects into account, 1,200 Airbus forecasts that the freighter fleet in 2025 will be 4,115 aircraft, two and a half times larger than 1,000 the fleet in 2005.

Of the 3,580 deliveries, 803 aircraft, or 22%, will be new factory-built freighters, while 2,777 will be converted freighters.

In terms of value, the large freighter segment, including the A380 and 747-8 will be the most important, with a value of \$139 billion at list prices, from a total business of almost \$180 billion.

100 90 80 70 60 50 40 30 20 10 Λ

0

800

600

400

200

0



Almost 600 aircraft to be retired over the next ten years

Age of freighter fleet

67% of today's freighters will have been replaced by 2025

Aircraft in service



Airbus freighter categories

	Payload	Aircraft types	Future deliveries payload
Small jet freighters	Below 30 tonnes	BAe 146, DC-9, 727, 737, Tu-204	22 tonnes
Regional freighters	30 to 60 tonnes	707, DC-8, 757, 767- 200, A310, A300, DC-10-10	45 tonnes
Long-range freighters	30 to 80 tonnes	DC-10-30/40, 767- 400, 747 Combi, A330-200	60 tonnes
Large freighters	Over 80 tonnes	MD-11, 777, 747, A380	120 tonnes

North American fleets dominated every segment in 2005

	Small	Regional	Long- range	Large	Total
North America	362	417	72	155	1,006
Europe and CIS	70	81	24	82	257
Asia-Pacific	46	14	31	138	229
Middle East	6	7	0	16	29
Latin America	36	20	16	2	74
Africa	14	19	10	6	49
Total	534	558	153	399	1,644

Converted aircraft will supply all the small freighter demand



Emerging express market in China and India driving need for small freighters

Small jet freighters

The US domestic market, historically the largest for this category of aircraft, is expected to grow at a slower rate, mostly because of the maturing next-day delivery market, the transfer of some of the capacity to trucks, and the replacement of some of the small freighters by larger regional freighters, such as the A300. It is forecast, however, that the US small-freighter fleet will grow from 362 aircraft in 2005, to 534 by 2025, or an annual average growth rate of 2%, which is well below other regions.

The robust express markets expected to emerge in China and India will be the driver of growth in that segment. In the US, competition from the roadhaulage industry is already well developed and benefits from a mature interstate highway system. In China, major infrastructure developments are in progress, but the distances are such that next-day service between most major cities will continue to require air services.

Initially, the majority of fleet requirements in Asia will be for small jets, before demand for larger regional freighters gradually increases, as previously seen in the US and in Europe. Airbus anticipates that the small-jet freighter fleets in the Asia-Pacific region will grow from a fleet of 46 aircraft in operation in 2005 to 316 aircraft in 2025.

As a result, the world's small jet freighter fleet is forecast to grow to more than 1,000 aircraft in 2025. As utilisations in express service are low, this makes the purchase of new dedicated freighter aircraft more difficult to justify. There are also many 737s and A320s in service today, which in future will provide an ample supply of airframes for freighter conversion. It is expected, therefore, that all small jet freighters will be conversions rather than new built aircraft.

Regional freighters

This segment is currently dominated by Airbus widebodies, whether factory-built A300-600s or converted A300s and A310s. There are also a smaller number of 757 and DC8 in service. In the coming years, the DC-8s will be the first to be retired, leaving the field mostly to converted aircraft,

such as A300-600s, A310s, A321s, 757s and 767s.

This category of freighter will also benefit from the developing domestic Chinese and Indian express markets. These countries are expected to follow the same development pattern as more mature express markets in North America and Europe, where integrators rely more on regional freighters than on the small jets.

Long-range freighters

Long-range freighters, today represented by DC-10-30s, 767-300s and by part of the main deck of 747 combis, enjoy utilisation close to large freighters and passenger aircraft. New aircraft, like the 767-300 today and the A330-200 in the near future, have become increasingly interesting for operators in the current fuel pricing environment and will be even more so should these costs increase further.

Dedicated freighters are free from the schedule and airport constraints of combis. This makes them particularly well suited to replacing combis on thinner markets and to opening freighter services to destinations like India, which today, are mainly served by the belly capacity of passenger aircraft and stopovers on Asia-Europe routes. Fl∉ 1.400 г.-

1,200 ---

1,000 ---

800 ---

400 ---

200 ---

L

400 r⁻⁻

300 --

200 --

100 --

Λ



Regional freighter fleet



Long-range freighter fleet



More than half of all large freighters will be new deliveries



Large freighters

The large freighter segment is expected to see the highest growth, with a yearly average increase of 5.8% over the forecast period.

Large freighters are the aircraft of choice on the large and fast-growing flows originating in Asia. Today, 69% of large freighter scheduled flights link Asia, PRC or Japan to the rest of the world. This segment has the highest utilisation, averaging over 3,600 flight hours per annum. Combined with

the need for reliable service and high volumetric payload, this will continue to drive the need for new aircraft in this class.

Airbus forecasts that the large freighter fleet will be 1,228 aircraft by 2025. More than half of the 989 freighter deliveries required by 2025 are expected to be factory freighters and will complement the 239 aircraft remaining in operation from 2005.





World regional fleet development

The North American fleet is expected to remain the largest, with 1,948 aircraft, against 1,223 fo the Asia-Pacific region. This represents a large increase for Asia-Pacific, due to the developme of an express fleet in the region and importantly an increased forecast for long-range, high volu traffic and resulting aircraft demand.

The world cargo market will require a total of 3, deliveries, of which 803 will be new factory built

2006-2025 freighter demand by region

	Total
North America	1,673
Europe and CIS	527
Asia-Pacific	1,106
Middle East	24
Latin America	164
Africa	86
Total	3,580
New/Converted	803/2,777

Almost \$180 billion worth of new freighters will be delivered



2006-2025 freighter demand



		marian	1	2		
r	Euro	pe and C	IS			
1	2	005	2025			E.
	2	257	648			
75	- Mi	ddle East			and the second second	
		2005	2025			
	Y., [] []	29	36	Asia	Pacific	•
801				2	2005	2025
	Africa			N. C.	229	1,223
	2005	2025				
	49	88				N. C
	World			~		¥
	2005	2025				
	1 644	/ 115				

า	freighters and 2,777 will be converted from
or	passenger aircraft or combis. The ratio of new
	deliveries to total demand, largely shaped by aircraft
ent	prices and utilisations, which drives the passenger
у,	to freighter conversion market, is expected to vary
ime	from none for small jets, to 53% for large freighters.
	New deliveries will continue to be dominated by the
,580	large freighters, with almost two-thirds of the deliveries

and more than 75% of the value will be delivered.

803 new freighters and 2,777 conversion needed

Passenger traffic forecast

Sub market	AAGR* 2006-2025
Africa Sub-Sahara - Asia	6.5%
Africa Sub-Sahara - Australia/New Zealand	5.0%
Africa Sub-Sahara - Indian Sub-continent	4.7%
Africa Sub-Sahara - Middle East	7.2%
Africa Sub-Sahara - North Africa	9.9%
Africa Sub-Sahara - P.R. China	4.9%
Africa Sub-Sahara - Russia	1.4%
Africa Sub-Sahara - South Africa	7.8%
Africa Sub-Sahara - South America	4.4%
Africa Sub-Sahara - US	6.2%
Africa Sub-Sahara - Western Europe	4.6%
Asia - Australia/New Zealand	5.3%
Asia - Canada	5.5%
Asia - Central Europe	6.8%
Asia - CIS	7.1%
Asia - Indian Sub-continent	6.5%
Asia - Japan	4.2%
Asia - Middle East	5.4%
Asia - North Africa	6.0%
Asia - P.R. China	6.7%
Asia - Pacific	3.0%
Asia - Russia	5.9%
Asia - South Africa	6.2%
Asia - South America	6.2%
Asia - US	6.2%
Asia - Western Europe	5.3%
Australia/New Zealand - Canada	7.8%
Australia/New Zealand - Indian Sub-continent	6.3%
Australia/New Zealand - Japan	5.2%
Australia/New Zealand - Middle East	7.9%
Australia/New Zealand - P.R. China	5.8%
Australia/New Zealand - Pacific	5.4%
Australia/New Zealand - South Africa	5.2%
Australia/New Zealand - South America	6.5%
Australia/New Zealand - US	6.2%
Australia/New Zealand - Western Europe	4.1%
Canada - Caribbean	2.9%
Canada - Central America	5.8%
Canada - Central Europe	7.2%
Canada - CIS	7.2%
Canada - Indian Sub-continent	6.1%

Sub market	AAGR 2006-2025
Canada - Japan	2.8%
Canada - North Africa	5.7%
Canada - P.R. China	5.3%
Canada - Pacific	6.3%
Canada - Russia	6.4%
Canada - South America	5.9%
Canada - US	3.8%
Canada - Western Europe	4.6%
Caribbean - Central America	4.6%
Caribbean - Russia	6.8%
Caribbean - South America	6.3%
Caribbean - US	2.9%
Caribbean - Western Europe	4.1%
Central America - Japan	2.3%
Central America - South America	6.7%
Central America - US	4.3%
Central America - Western Europe	5.8%
Central Europe - CIS	8.8%
Central Europe - Indian Sub-continent	6.0%
Central Europe - Middle East	3.4%
Central Europe - North Africa	6.4%
Central Europe - P.R. China	5.4%
Central Europe - Russia	3.9%
Central Europe - US	4.8%
Central Europe - Western Europe	6.8%
CIS - Indian Sub-continent	4.8%
CIS - Japan	8.4%
CIS - Middle East	7.2%
CIS - North Africa	3.7%
CIS - P.R. China	5.6%
CIS - Russia	7.7%
CIS - US	6.0%
CIS - Western Europe	6.8%
Domestic Africa Sub-Sahara	4.9%
Domestic Asia	5.2%
Domestic Australia/New Zealand	4.7%
Domestic Brazil	5.2%
Domestic Canada	2.5%
Domestic Caribbean	2.6%
Domestic Central America	5.5%
Domestic Central Europe	7.5%

Sub market	AAGR 2006-2025
Domestic CIS	6.3%
Domestic India	12.3%
Domestic Indian Sub-continent	8.7%
Domestic Japan	2.5%
Domestic Mexico	6.4%
Domestic Middle East	4.0%
Domestic North Africa	4.8%
Domestic P.R. China	8.2%
Domestic Pacific	3.3%
Domestic Russia	5.8%
Domestic South Africa	6.6%
Domestic South America	4.9%
Domestic Turkey	6.7%
Domestic US	2.7%
Domestic Western Europe	3.0%
Indian Sub-continent - Japan	6.0%
Indian Sub-continent - Middle East	6.1%
Indian Sub-continent - North Africa	4.6%
Indian Sub-continent - P.R. China	7.2%
Indian Sub-continent - Russia	4.8%
Indian Sub-continent - South Africa	5.6%
Indian Sub-continent - US	7.6%
Indian Sub-continent - Western Europe	6.1%
Intra - Africa Sub-Sahara	4.6%
Intra - Asia	5.6%
Intra - Australia/New Zealand	4.2%
Intra - Caribbean	3.8%
Intra - Central America	3.8%
Intra - Central Europe	6.8%
Intra - CIS	5.4%
Intra - Indian sub-continent	5.4%
Intra - Middle East	7.2%
Intra - North Africa	5.6%
Intra - Pacific	4.9%
Intra - South America	6.0%
Intra - Western Europe	4.1%
Japan - Middle East	7.9%
Japan - North Africa	5.4%
Japan - P.R. China	5.4%
Japan - Pacific	3.6%
Japan - Russia	1.9%

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*Annual Average Growth Rate (AAGR)

Sub market	AAGR 2006-2025
Japan - South America	0.1%
Japan - US	4.5%
Japan - Western Europe	4.1%
Mexico - US	5.4%
Middle East - North Africa	4.7%
Middle East - P.R. China	7.4%
Middle East - Russia	5.5%
Middle East - South Africa	8.3%
Middle East - US	7.4%
Middle East - Western Europe	6.2%
North Africa - Russia	6.3%
North Africa - South Africa	6.4%
North Africa - US	6.1%
North Africa - Western Europe	4.8%
P.R. China - Russia	5.6%
P.R. China - South Africa	7.0%
P.R. China - US	6.3%
P.R. China - Western Europe	6.2%
Pacific - South America	2.9%
Pacific - US	3.3%
Pacific - Western Europe	5.0%
Russia - US	6.7%
Russia - Western Europe	5.4%
South Africa - South America	8.1%
South Africa - US	6.9%
South Africa - Western Europe	5.6%
South America - US	5.2%
South America - Western Europe	6.4%
US - Western Europe	4.3%
World	4.8%

Freight traffic forecast

Sub market	AAGR 2006-2025
Africa - Africa	4.7%
Africa - Asia	4.0%
Africa - Central America	6.6%
Africa - CIS	4.3%
Africa - Europe	6.2%
Africa - Indian Subcontinent	4.3%
Africa - Japan	1.4%
Africa - Middle East	5.3%
Africa - North America	6.8%
Africa - Pacific	4.1%
Africa - PRC	6.7%
Africa - South America	5.6%
Asia - Africa	4.7%
Asia - Asia	5.3%
Asia - Central America	7.2%
Asia - CIS	6.2%
Asia - Europe	5.7%
Asia - Indian Subcontinent	6.3%
Asia - Japan	4.3%
Asia - Middle East	4.0%
Asia - North America	5.5%
Asia - Pacific	5.3%
Asia - PRC	8.1%
Asia - South America	6.4%
Central America - Africa	6.6%
Central America - Asia	4.2%
Central America - Central America	3.9%
Central America - CIS	6.7%
Central America - Europe	4.8%
Central America - Indian Subcontinent	7.6%
Central America - Japan	4.6%
Central America - Middle East	4.3%
Central America - North America	4.2%
Central America - Pacific	5.9%
Central America - PRC	5.9%
Central America - South America	6.1%
CIS - Africa	2.9%
CIS - Asia	4.1%
CIS - Central America	5.8%
CIS - Europe	3.6%

Sub market	AAGR 2006-2025
CIS - Indian Subcontinent	4.0%
CIS - Japan	3.4%
CIS - Middle East	4.0%
CIS - North America	4.2%
CIS - Pacific	4.1%
CIS - PRC	5.7%
CIS - South America	4.1%
Domestic India	20.3%
Domestic PRC	10.9%
Domestic US	3.3%
Europe - Africa	5.2%
Europe - Asia	5.3%
Europe - Central America	6.1%
Europe - CIS	5.8%
Europe - Europe	5.0%
Europe - Indian Subcontinent	5.4%
Europe - Japan	3.7%
Europe - Middle East	4.6%
Europe - North America	3.7%
Europe - Pacific	4.3%
Europe - PRC	7.9%
Europe - South America	5.1%
Indian Subcontinent - Africa	6.3%
Indian Subcontinent - Asia	5.2%
Indian Subcontinent - Central America	8.5%
Indian Subcontinent - CIS	3.8%
Indian Subcontinent - Europe	6.0%
Indian Subcontinent - Indian Subcontinent	5.1%
Indian Subcontinent - Japan	4.9%
Indian Subcontinent - Middle East	5.8%
Indian Subcontinent - North America	5.0%
Indian Subcontinent - Pacific	4.6%
Indian Subcontinent - PRC	6.7%
Indian Subcontinent - South America	7.2%
Japan - Africa	5.9%
Japan - Asia	4.3%
Japan - Central America	4.7%
Japan - CIS	5.7%
Japan - Europe	5.0%
Japan - Indian Subcontinent	5.0%

Sub market	AAGR 2006-2025
Japan - Middle East	4.9%
Japan - North America	3.9%
Japan - Pacific	6.1%
Japan - PRC	9.1%
Japan - South America	3.2%
Middle East - Africa	5.0%
Middle East - Asia	4.5%
Middle East - Central America	6.7%
Middle East - CIS	4.5%
Middle East - Europe	3.6%
Middle East - Indian Subcontinent	5.6%
Middle East - Japan	2.3%
Middle East - Middle East	3.7%
Middle East - North America	4.6%
Middle East - Pacific	3.8%
Middle East - PRC	6.7%
Middle East - South America	4.0%
North America - Africa	6.2%
North America - Asia	4.8%
North America - Central America	5.0%
North America - CIS	6.6%
North America - Europe	3.5%
North America - Indian Subcontinent	7.2%
North America - Japan	3.9%
North America - Middle East	4.1%
North America - North America	3.3%
North America - Pacific	3.6%
North America - PRC	8.1%
North America - South America	6.1%
Pacific - Africa	4.6%
Pacific - Asia	3.5%
Pacific - Central America	5.1%
Pacific - CIS	5.6%
Pacific - Europe	4.4%
Pacific - Indian Subcontinent	4.4%
Pacific - Japan	3.5%
Pacific - Middle East	5.3%
Pacific - North America	4.3%
Pacific - Pacific	2.6%
Pacific - PRC	3.5%

Sub market	AAGR 2006-2025
Pacific - South America	9.0%
PRC - Africa	7.6%
PRC - Asia	7.8%
PRC - Central America	7.8%
PRC - CIS	7.0%
PRC - Europe	9.1%
PRC - Indian Subcontinent	7.7%
PRC - Japan	3.7%
PRC - Middle East	7.5%
PRC - North America	9.8%
PRC - Pacific	7.3%
PRC - South America	8.0%
South America - Africa	6.3%
South America - Asia	5.7%
South America - Central America	7.4%
South America - CIS	6.6%
South America - Europe	6.0%
South America - Indian Subcontinent	7.8%
South America - Japan	5.5%
South America - Middle East	3.6%
South America - North America	4.8%
South America - Pacific	6.1%
South America - PRC	7.7%
South America - South America	6.7%

World

6.0%

Aircraft segmentation and in service seating profile



New passenger aircraft deliveries by region

	Africa	Asia-Pacific	CIS	Europe	Latin America & Caribbean	Middle East	North America	
50 seater	7	268	34	291	97	7	503	
70/85 seater	87	370	281	907	95	28	1,016	
100 seater	73	173	46	625	275	42	772	
125-210 seater	317	3,759	387	3,407	916	305	4,233	
Small twin aisle	152	1,367	65	885	169	339	768	
Intermediate twin aisle	47	735	43	358	30	138	171	
VLA	29	708	7	292	8	116	103	

Passenger fleet development

	Fleet 2005	New Aircraft deliveries 2006-2015	New Aircraft deliveries 2016-2025	New Aircraft deliveries 2006-2025	Recycled	Stay	Fleet 2025
50 seater	3,426	490	717	1,207	1,384	280	2,871
70/85 seater	1,051	1,099	1,685	2,784	269	248	3,301
100 seater	1,644	989	1,017	2,006	382	62	2,450
125-210 seater	8,025	6,476	6,848	13,324	4,106	452	17,882
Small twin-aisle	2,126	1,738	2,007	3,745	263	69	4,077
Intermediate twin-aisle	856	747	775	1,522	91	22	1,635
VLA	25	499	764	1,263	0	0	1,263

Minimum, average and maximum seating of aircraft currently in airline operation. (For aircraft not yet delivered, typical seating shown)



AIRBUS S.A.S. 31707 BLAGNAC CEDEX, FRANCE

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