



# *SuperJet International*

2012-2031

**Market Outlook**

***In memory of the MSN 95004 angels***



## *Foreword*



## *Forecast*



## *Regional overview*



## *Sources*

“Economy is too late when  
you are at the bottom of your  
purse”

**Lucius Annaeus Seneca**

Roman philosopher and playwright

# Macroeconomic data

Our 2012-2031 Market Outlook highlights SJI's vision for the Air Transport Market and its development. Our company forecasts a demand for approximately 5,900 regional jets over the next 20 years. The 91-120 seat segment will account for about 63% of total deliveries.

Economic growth is again one of the main drivers for our forecast. 2012 will likely see a deep recession in some EU countries while emerging countries will continue to lead worldwide GDP growth. For our analysis we estimated an average world growth of 2% to 3% in 2012 (lower than last year) and 3% to 4% in 2013. Average crude oil price is forecasted to be in the 90\$ to 100\$ range per barrel and yield should improve by 2% from 2011.

Considering macro geographic areas, besides the traditional emerging markets, Africa will also become an important player in the next 20 years in terms of relative growth : 8 African countries were in the Worldwide Top 20 GDP Growth for 2011 , Ethiopia is predicted to be the 3<sup>rd</sup> fastest growing economy in 2010-2015, and the population is predicted to double in the next 20 years. During last quarter of 2011 India surpassed Japan as world's third largest economy.

Air traffic is linked to GDP trends. We used a lower ratio RPK vs GDP for mature markets and a higher one for markets such as Africa and Latin America.

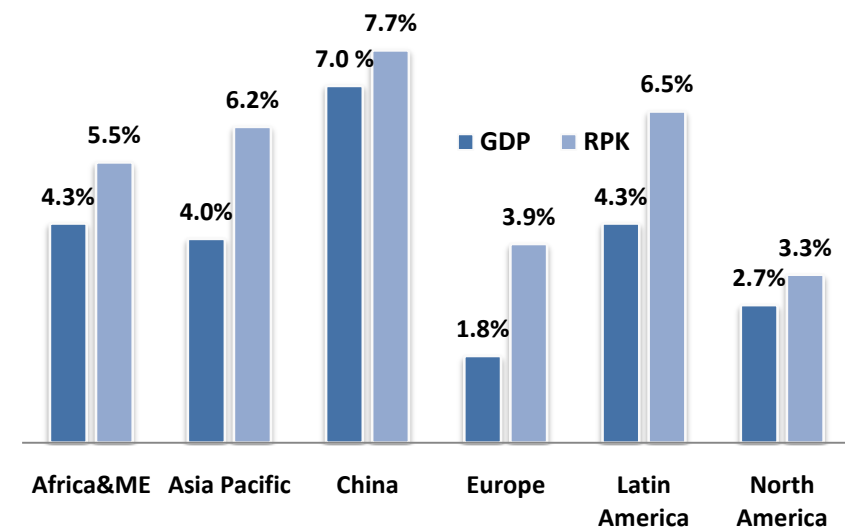


## Top 5 World Economies Nominal GDP [Billions of US Dollars]

Rank	2011	2031	2011 GDP (PPP)
1	USA	China	15,094.025
2	China	USA	11,299.967
3	India	India	4,457.784
4	Japan	Japan	4,440.784
5	Germany	Germany	3,099.080

Chinese economy is forecasted by International Monetary Fund (IMF) to account for 22% of World GDP in 2030. It is curious to highlight that it is the same percentage scored in 1500!

## Average annual growth rate (2012-2031)



Source : SJI estimation

# Economic forecast

Air traffic is influenced by many external factors linked to macro-economic conditions. Forecasts for 2012 are mainly driven by two aspects : the EU crisis and the “unpredictable” oil price . It is these two issues which will largely decide whether this will be a good or a bad year for the industry. The uncertainty surrounding Eurozone’s economy is not only a threat for the European carriers but also for many others (such as North American ones) for which Europe remains an important market. Europe’s economic problems could suppress demand and swap capacity outside the region. On the other side, the US economy and confidence of the US consumers have improved.

As a result of this very “unpredictable” year, IATA has provided in June four different forecasts for 2012 : one central forecast, one Eurozone crisis, one oil price spike and one Eurozone calms. The Asia Pacific carriers for the 3<sup>rd</sup> consecutive year will lead the worldwide net profits. There is much optimism for Latin America where a growing middle class market is expected to drive demand for air transport with passenger growth continuing to increase in the coming years at a rate faster than GDP growth.

## Airlines net profits [billions USD]

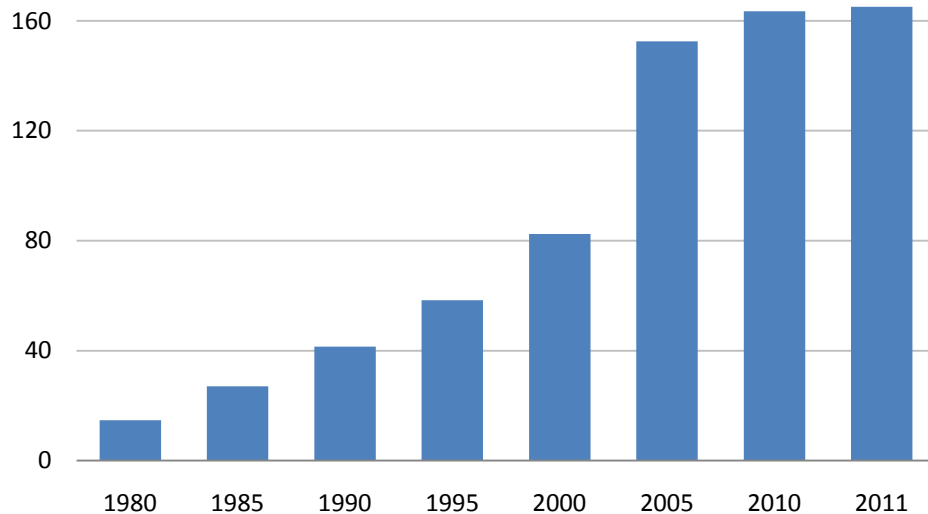
Region	2008	2009	2010	2011	2012F Central forecast
North America	-9.6	-2.7	4.1	1.3	1.4
Europe	0.0	-4.3	1.9	0.5	-1.1
Asia Pacific	-4.7	-2.7	8.0	4.9	2.0
Middle East	-0.3	-0.6	0.9	1.0	0.4
Latin America	-1.4	0.5	0.9	0.3	0.4
Africa	-0.1	-0.1	0.1	0.0	-0.1



# Regional market

Regional air transport is forecasted to grow at higher rate than mainline transport. SJI predicts an average of +5.3% yearly growth in the next 10 years. Considering the US regional market only, the number of passengers has doubled in the last 10 years and the Federal Aviation Administration (FAA) predicts an average growth of 3.6% for regionals and 2.7% for mainline carriers from 2012 to 2032.

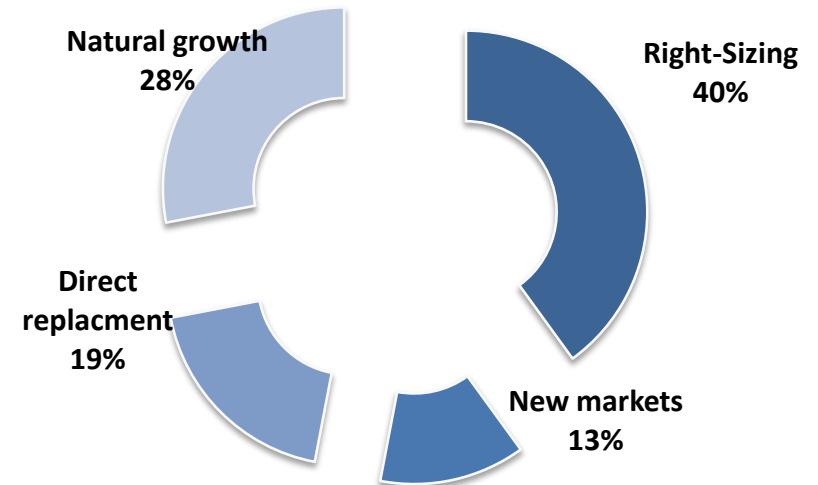
**US Regional airlines passengers [millions]**



Source: RAA + SJI estimations for 2011

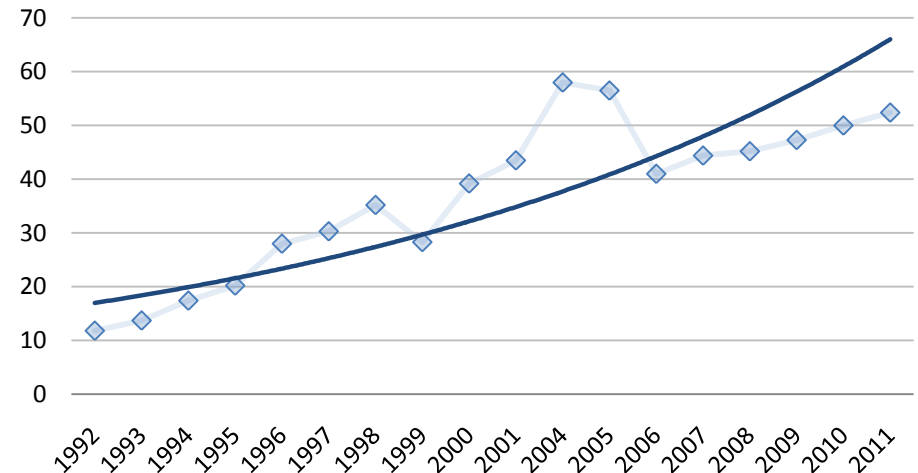
The trend in regional market is also to use bigger aircraft flying over longer routes. Many regional jet applications are as right-sizing for narrow body operations during off-peak hours. For example Aeroflot is utilizing its new SSJ100 aircraft on some routes as A320 family complement.

**Regional airlines – 100 seat jets utilization**



Source: SJI elaboration on OAG

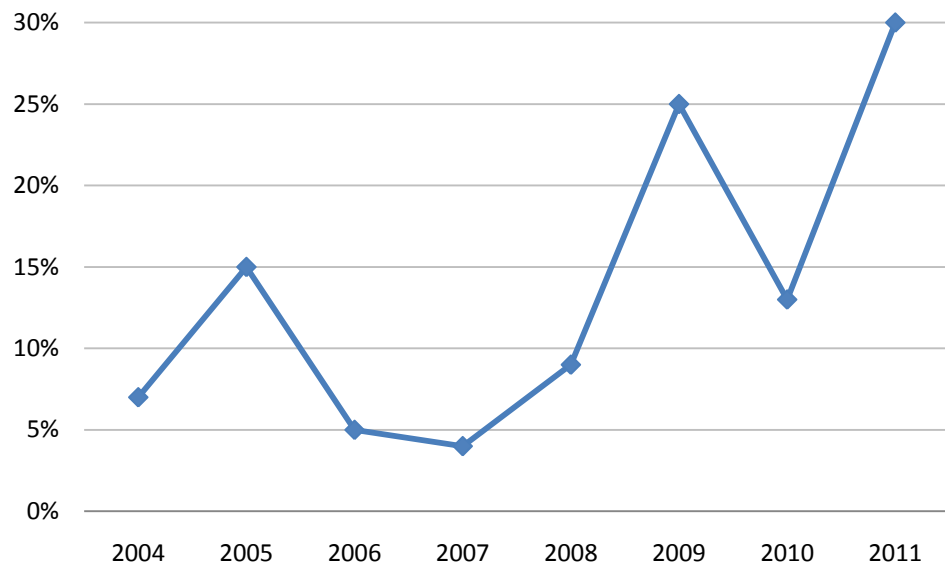
**European regional airlines passengers [millions]**



Source:ERAA.org

# Regional market

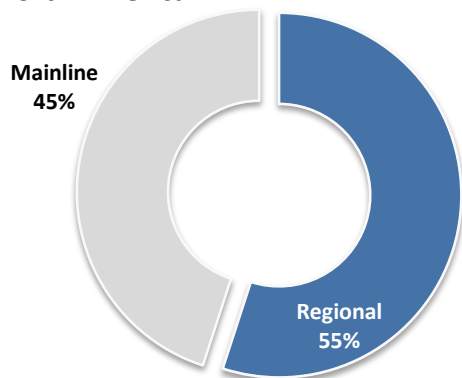
Regional jets orders placed by leasing companies/total orders



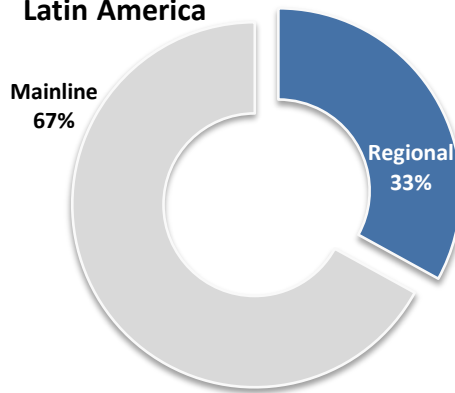
Source: ACAS

Domestic routes flown by regional aircraft

## North America



## Latin America



Regional jet aircraft are becoming an important asset for leasing companies during period of market downturn. The trend (particularly for North American leasing companies) is to place speculative orders when the market is suffering due to external factors. Bigger regional jets, because of their reduced costs, can help airlines to better face crisis when less passengers are forecasted to fly.



Today, regional airlines represent the backbone of worldwide air transport. In North America the share of regional only airports is about 75% and about one third of routes between 500 and 1,000 nautical miles in Europe and North America are flown by regional jets.

It is important to underline how the regional market development and the level of market maturity are directly linked to one another. In North America about 55% of routes are flown by regional aircraft (in Europe this value is nearly 50%). Less developed markets such as Latin America and Africa present lower values for this percentage. Today regional carriers account for one third of all commercial passenger flights worldwide.



# The new challenge?

This is the year! 2012 is the year first step to the introduction of EU ETS . But what is EU ETS? Environmental Trading Scheme (ETS) is a market based measure to regulate and reduce CO<sub>2</sub> emissions in Europe. Despite air transport accounting for only about 3% of worldwide emissions and an aircraft, per person, is more cost effective in terms of emissions than all other forms of transport, EU ETS is the result of the lack of a global agreement to achieve Kyoto targets.

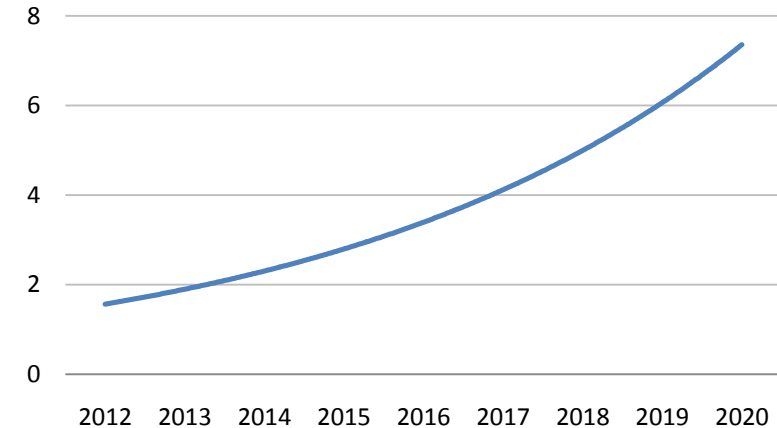
All flights departing or landing at EU airports are requested to participate in the emissions trading plan starting from Jan 1, 2012. Emissions will be calculated from a flight's point of departure, meaning that the portion of routes outside EU air space will also be charged. Airlines exceeding their limits must buy additional quotas in order to fly. The EU asked airlines to submit their emission data before the end of April 2012 and that will be the not to exceed cap for the coming years. Companies exceeding their allocation must buy additional allocation or pay a fine of about € 100 per tonne of CO<sub>2</sub>. Lufthansa estimates the ETS will cost the air transport up to €7 billion in 2020.

The introduction of the scheme has caused a dispute between nations and what started out as a possible solution to reduce pollution has become a source of potential trade conflict. Many countries, including the US, China, India, Russia and Japan are declaring the EU ETS is a violation of the principle stated in the Chicago Convention which stipulated the individual states have exclusive sovereignty over their air space. Airlines for America claims the scheme "isolates the EU from the rest of the world" and says its members will comply but under protest.

A significant number of non – EU carriers have already submitted their data and are ready to comply with new ETS rules.

One way of reducing carbon emissions is to utilize the biofuel that are in development. The EU ETS could therefore push the air transport market to develop new technologies in order to reduce the emissions and thus the amount of taxes. Also considering that emissions are strictly linked to fuel burn, SJI forecasts an increase in the old aircraft retirements and replacement by new technology ones.

ETS airlines costs [bn euros]



Source : Lufthansa Group





# Air and rail

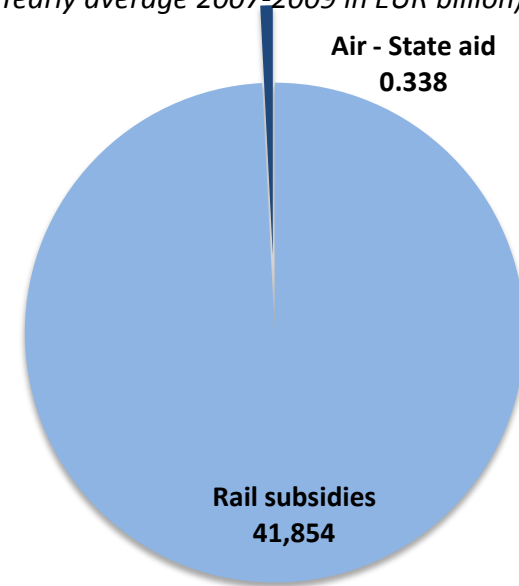
It cannot be said that there exist fair competition between air and rail. This is largely because the rail sector took advantage of State subsidies which were 125 times higher than those provided to assist air transport.

If we compare some numbers between the two industries in Europe, we see that the number of aviation related enterprises is 5 times greater than that of rail enterprises. For example the turnover of the air transport market is almost twice than of rail; EU airports and airlines offer 150,000 city pairs versus 100 from High Speed Rail (HSR); expanding the HSR network to link all major city-pairs currently connected by at least 10 flights a day would require a 600% increase in the HSR network and would result in a less than 5% reduction in demand for flights by 2030 (Source : ERAA.org).

Also in terms of pollution, some false beliefs need to be refuted : first of all, no energy source has a 'zero' impact on society, and given that today we produce electricity basically from oil and nuclear sources, it cannot be said that HSR has no impact on the environment; rail's nuclear footprint has a massive impact if we consider decommissioning costs as well.



**Subsidies to rail sector vs state aid to air transport**  
(Yearly average 2007-2009 in EUR billion)



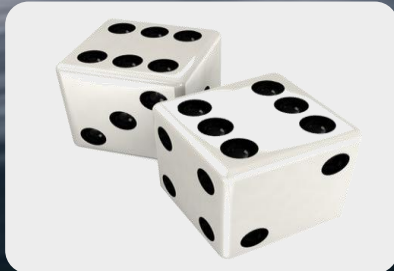
Source: ERAA.org

Regional airports constitute an important element in regional economic development also due to Public Service Obligation (PSO) routes and in many cases aviation is the only way to link some minor cities to each other.

Air and rail should be complementary and synergetic, with each feeding the other's market. They can exist alongside each other offering passengers more flexibility and choice. An example of cooperation is the AIRail agreement between Lufthansa and the DBahn. It provides a fixed number of seats by train both in the 2<sup>nd</sup> and 1<sup>st</sup> class connecting to or from an air service in Frankfurt and travelling from Stuttgart or Cologne. Similar agreements are in place between Air France and the Société Nationale des Chemins de Fer Français (SNCF) and many other airlines/rail companies.



*Foreword*



*Forecast*



*Regional overview*



*Sources*

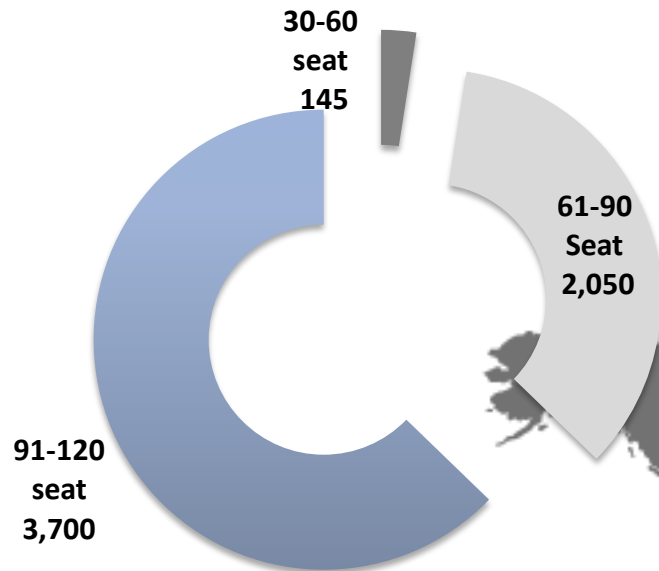
“Change is the law of life. And those who look only to the past or present are certain to miss the future”

**J.F.Kennedy**

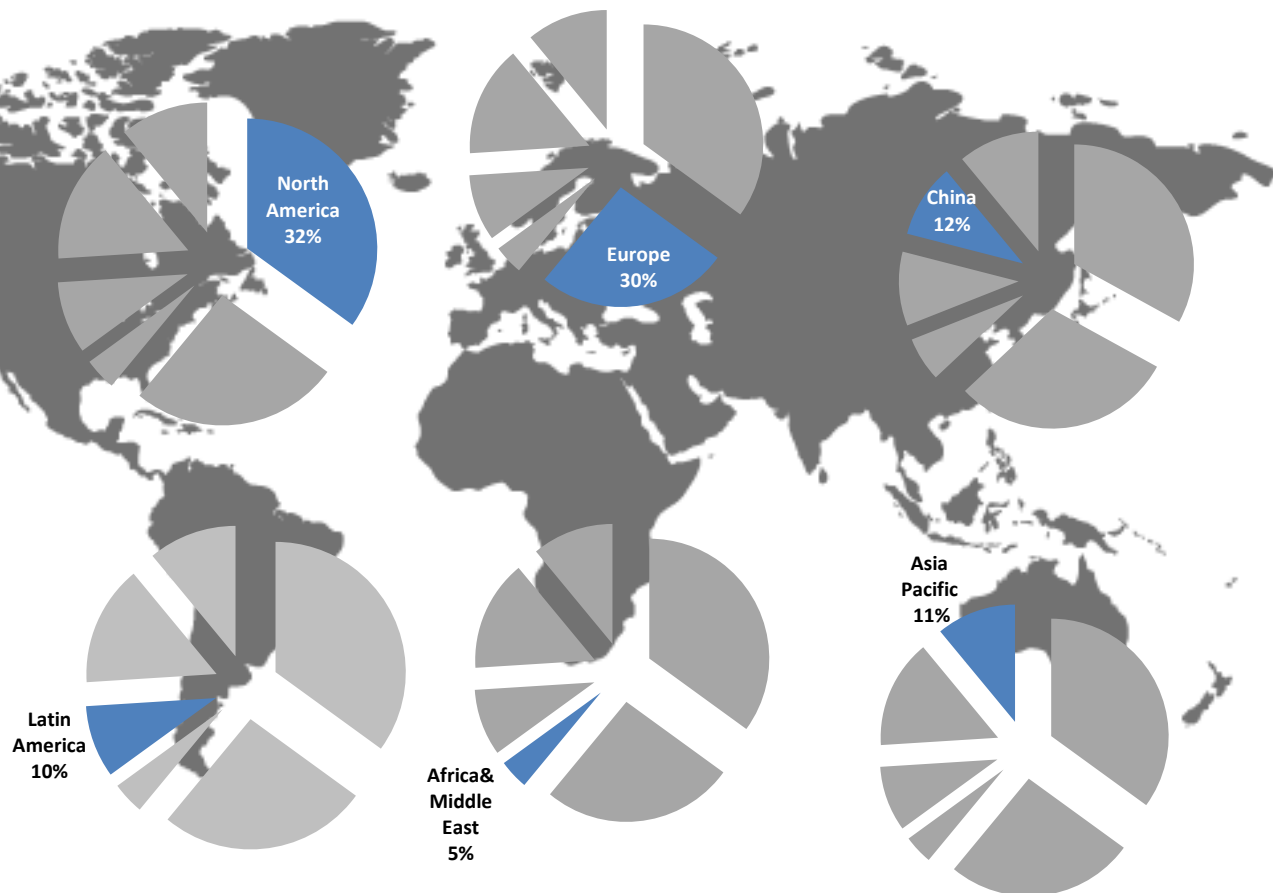
35<sup>th</sup> president of United States of America

# 2012-2031 *forecast*

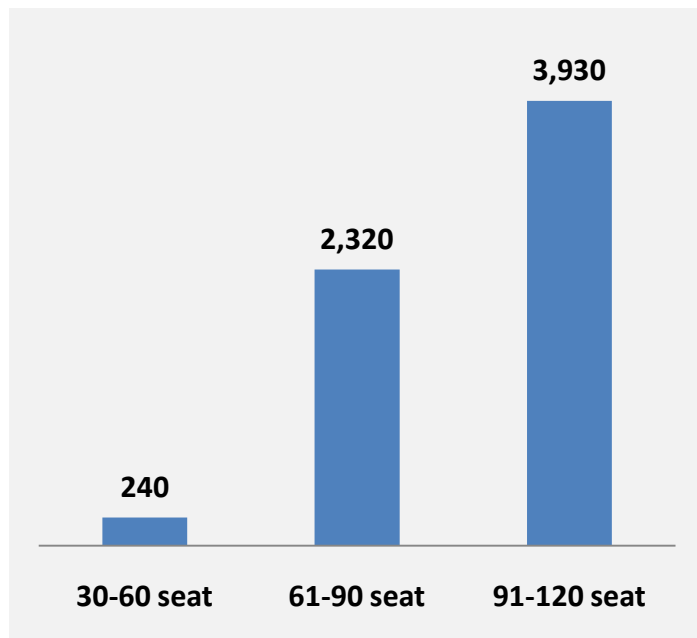
2012 – 2031 jets deliveries [number of aircraft ]



30-120 seat jets deliveries [2012 – 2031]  
Geographic distribution



# 2031 regional jets flying fleet

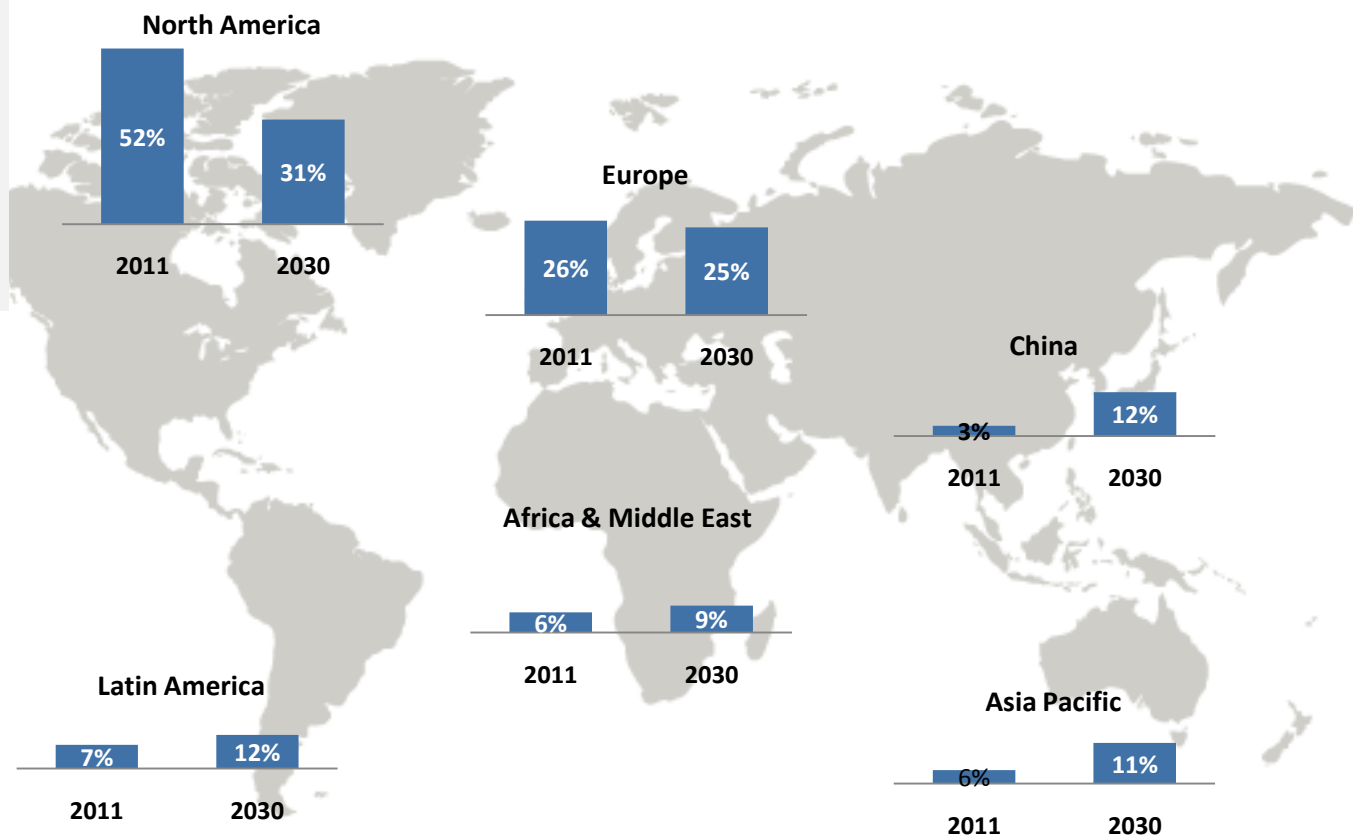


In 2031 about 60% of worldwide flying regional jets will be in the 91-120 seat market group.

North America will remain the largest market despite its percentage will dramatically drop from 52% to 31% of flying fleet.

Both Latin America and Africa & Middle East will increase their market share

## 30-120 seat jets 2031 flying fleet Geographic distribution





*Foreword*



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*Regional overview*



*Sources*

“No culture can live if it  
attempts to be exclusive”

**Mahatma Gandhi**

Preeminent leader of Indian  
nationalism.



# Africa and Middle East

**Nominal GDP - 2011** US\$ 3,978 billions

**Average GDP next 20 years** +4.3%

**Number of regional jets (active)** 242

Even though Africa is today, the poorest continent on the planet, it is also one of the fastest-growing regions in the world for aviation. What it currently lacks however are the infrastructures needed to boost air transport. During the period from 2001-2011, Angola has been 1<sup>st</sup> worldwide country in terms of GDP growth with an average of 11.1% growth. In the next 10 years, it is forecasted that 7 African countries will be in the Top 10 in terms of GDP growth.

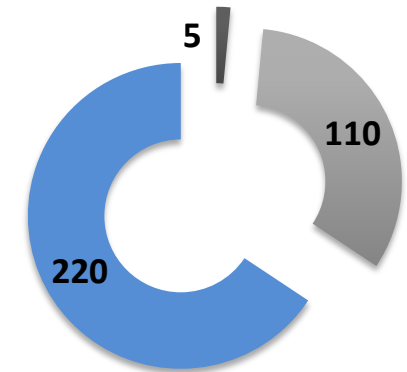
Chinese investments in Africa are accelerating year by year with billions of dollars being invested in infrastructures, airports and roads in order to create a stable trading environment between Africa and China. Overall investment in infrastructure is predicted to grow by 20% per annum and since 1990 the return on investments (ROI) of foreign direct investments (FDI) has averaged 29%. Moreover, African airlines are targeting Chinese immigrants in Africa creating hub and spoke models whereby the regional network will feed passengers into some main airports.

The insufficient nature of older modes of transport in Africa makes the air transport the ideal way to link this vast continent (10 countries in Sub-Saharan Africa have no access to the sea). In addition, this huge untapped market (only 10% of people currently travel by air) which is predicted to double in population by 2026, will bring additional opportunities for regional airlines directly linking the cities in the region.

The most developed sectors are the southern and eastern parts with three main hubs (Johannesburg, Nairobi and Addis Ababa) which are the gateways to the continent.

The Middle East has experienced one of the highest growth rate in air traffic over the last 10 years. Major airlines in this area have experienced compound annual traffic growth rates of at least 12% over the past decade : only the Chinese and Indian market had similar performance. The three major sixth freedom hubs in the Middle East – Dubai, Doha and Abu Dhabi – added 7.7 million passengers between them in 2011. Combined, the three hubs had an average passenger traffic growth rate of 10.5%.

**2012-2031 total deliveries (jets only)**



■ 30-60 seat   ■ 61-90 seat   ■ 91-120 seat





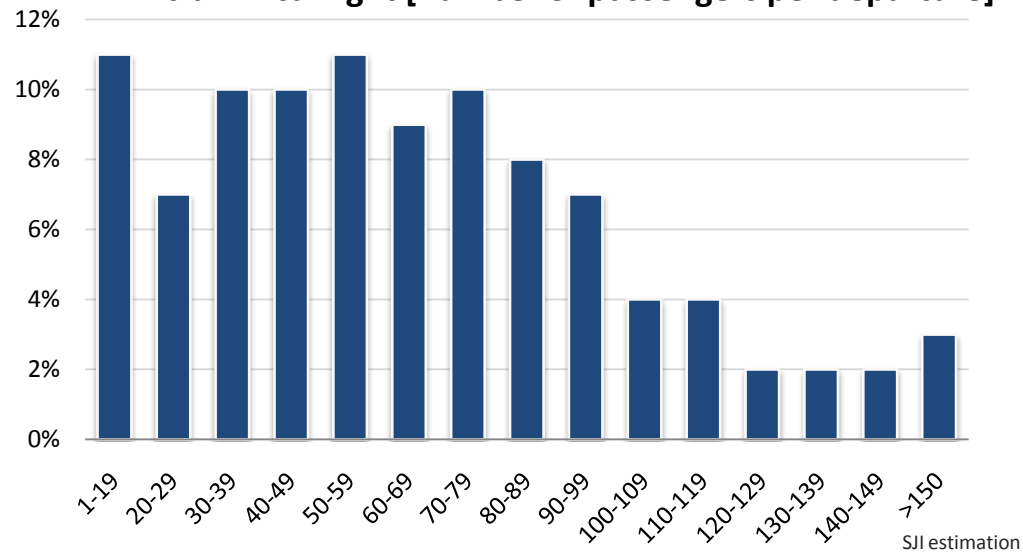
# Africa and Middle East

The African aviation market is opening itself up to foreign investors but in a slow way. The Yamoussoukro Declaration was agreed in 1998 in order to create an open sky but has only recently shown signs of implementation (first open sky between South Africa and Cameroon entered into force on June 2011). Moreover, the Declaration also allows African airlines to easily open new subsidiaries in other countries. The trend in Africa is to fly big jets even on lower load factor routes; African airlines have the lowest average load factor in the world (about 69%). Right-sizing operations with 100 seat aircraft would help these airlines to improve efficiency, reduce costs and to provide passengers with better connections across the region.

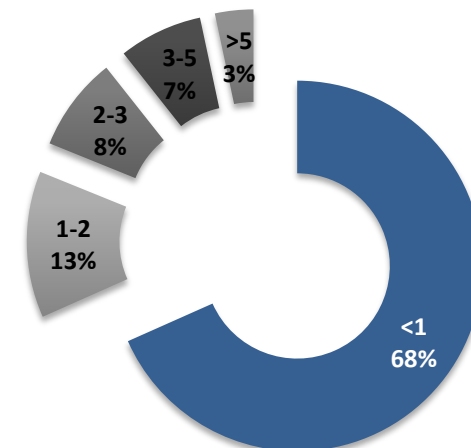
In the Middle East, there are many city pairs which are still served by low-frequencies narrow body flights. By replacing these aircraft with smaller jets it would enable airlines to develop new markets while reducing risks and increasing their profitability.



**Intra Africa flight [number of passengers per departure]**



**Middle East/ Intra-regional narrow body routes**  
Percentage of routes by daily frequencies



Source: SJI elaboration of OAG

**Nominal GDP - 2011** US\$ 13,199 billions

**Average GDP next 20 years** +4.0%

**Number of regional jets (active)** 169

According to IATA, by 2015 the number of passengers in the Asia Pacific region will account for 37% of the total market while Europe and North America will account together for only 29%.

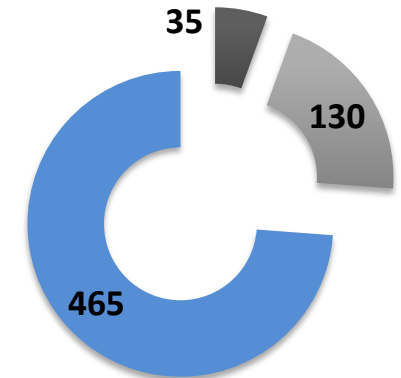
Asia Pacific based carriers will continue to outperform the overall industry in 2012 with continued growth in passenger numbers. Airlines in the area are expected to record a 2.0 USD billions profits while North American carriers will only account for 1.4 USD billions.

Liberalizations in the area is another key point that will drive air transport development in the coming years. For example, Japan is considering to allow private companies to acquire 30 to 50 years management rights for up to 27 airports operated by the central government.

The economic outlook for the Asia Pacific area is one of the most promising in the world. SJI is forecasting an annual GDP growth rate of 4.0% for next 20 years. Despite Asia Pacific being an heterogeneous area composed of many countries with different economic peculiarities, the gap between some less structured economies (Laos, Vietnam, Cambodia) and some more structured ones (Australia, Japan) will be reduced. Moreover, in the medium to long term, this area is forecasted to be one of the fast growing air transport market. This is also due to a very young population who is more willing to travel. For example, Myanmar's aviation market is one of the most promising in the future due to the creation of a more favorable business environment for aviation.

If a billion people living in India adopted the same air travel habits as in the Americas, it would lead to a market of approximately 2 billion passengers. Also considering Indians will chose air transport three time less than US citizens, Indian market would become greater than North American one in term of total carried passengers.

**2012-2031 total deliveries (jets only)**



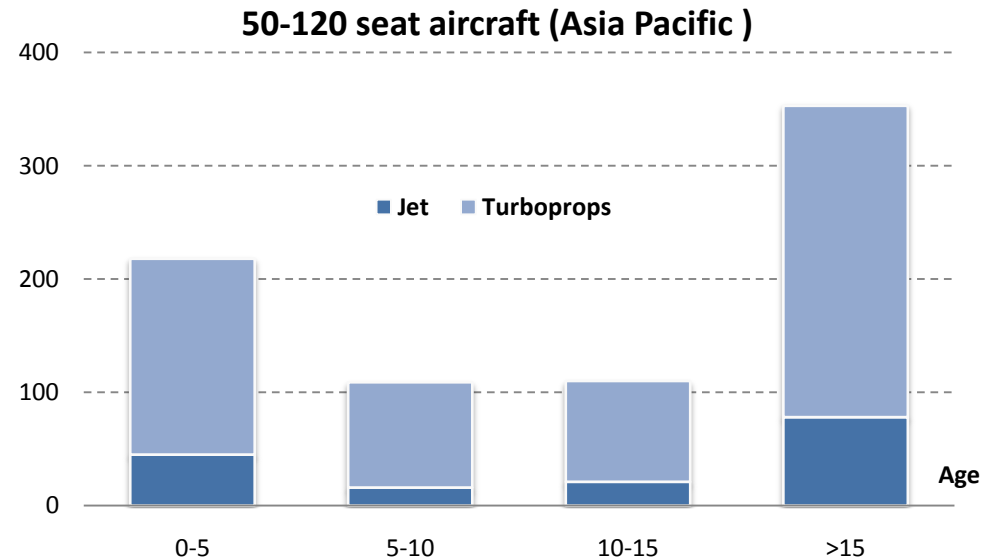
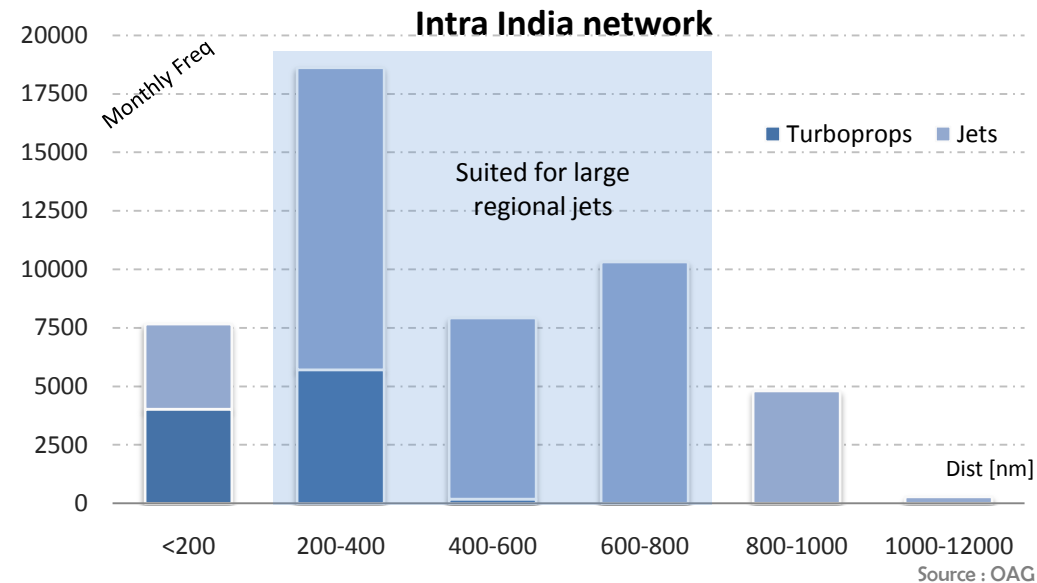
■ 30-60 seat ■ 61-90 seat ■ 91-120 seat



The potential demand for regional aircraft is very high in India. In the last 3 years more than 50% of the new routes opened have had an average aircraft size of fewer than 110 seats. The trend in the country is to use regional aircraft with a drop in average aircraft size on routes once flown by narrow body in order to increase frequencies and service levels. Moreover many Indian domestic routes are a few hundred miles in length and are operated with smaller jetliners. The market for large regional jets will certainly increase in the next few years when other smaller routes will be opened in response to continued traffic growth.

Additional opportunities for large regional jets may also arise from aircraft substitution. Many 50-120 seat aircraft in the Asia Pacific region are more than 15 years old and need to be replaced by new more efficient ones. Despite the predominance of turboprops, 100 seat jets can be utilized on the same routes thanks to their enhanced take off capabilities.

In many ways Asia is also well suited to Low Cost carriers (LCCs) : cities are separated either by sea or undeveloped surface transport with an expanding middle class. Moreover, with increasing market liberalization and competition, Low Cost Carriers (LCCs) will need to operate some 100 seat aircraft to open new routes.





**Nominal GDP - 2011** US\$ 7,629 billions

**Average GDP next 20 years** +7.0 %

**Number of regional jets (active)** 127

The Chinese government is strongly supporting the creation of an indigenous aerospace industry also due to international co-operations. The ARJ21 and the COMAC 919 are two main projects aimed at getting China into the aerospace sector. Furthermore, it has to be reported that the production of various western aircraft are being subcontracted to Chinese companies.

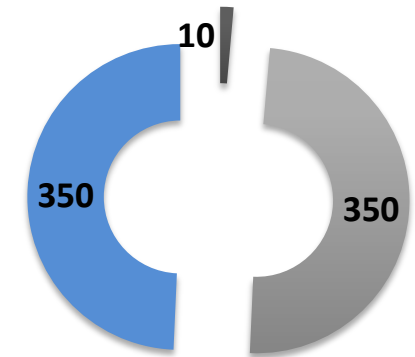
During the last 5 years, high speed rail service has been implemented to connect the biggest cities within the country. On some routes, airlines will be forced to reduce capacity enabling large regional jets to compete with narrow bodies for right-sizing operations.

The People's Republic of China (PRC) has the largest population in the world with approximately 1.3 billion people with almost 1.2 billion of those people living in the eastern half of the nation.

According to the Chinese zodiac, 2012 is the Year of the Dragon which should be distinguished by ambition, innovation and enterprising. The general outlook for this region, while lower than last years, still indicates a double digit growth in traffic and China's aviation market is continuing to expand year by year at a rate above the worldwide average despite a slow decrease in the percentage. The Civil Aviation Administration of China (CAAC) has declared that passenger growth will likely slow in 2012 after forecasting an increase of 10% (was 9.2% in 2011) with about 320 million passengers carried. Beijing is expected to become soon the world's busiest airport replacing Atlanta and air transport in China can also rely on 21 airports which in 2011 handled more than 10 million passengers.

High rates of development has led to a need for a large number of new aircraft and the trend is forecasted to continue.

**2012-2031 total deliveries (jets only)**



■ 30-60 seat ■ 61-90 seat ■ 91-120 seat



Today, China is the second largest regional market after the US and it is expected to double every seven to eight years taking into consideration an average rate of growth of 10%. The high population density of the eastern provinces has led to many cities being located within a few hundred miles of each other. The result of this is that the majority of the city pairs are less than 600 NM and the market is characterized by a gap with additional opportunities for large regional jets.

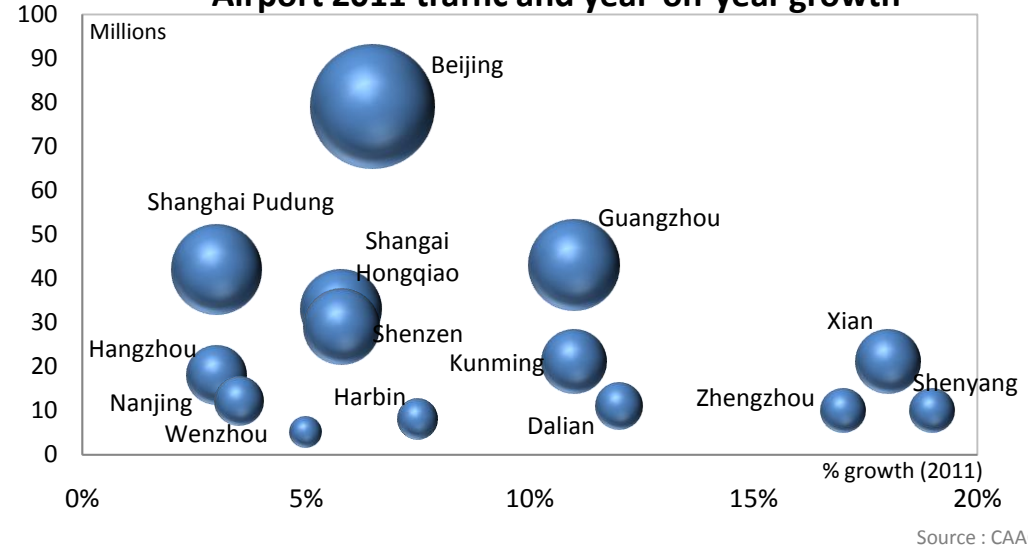
Today, the regional jet market is still quite small in comparison to that of the narrow body one. Nonetheless, regional aircraft operations has grown by more than 90% over the last 10 years.

The Chinese government is strongly supporting the development of local air transport. The original plan of building 60 new airports between 2011-2015 has now been increased to 70 with a large series of modernization and investment plans not just for main hubs but also for secondary airports with positive evolution for the regional and narrow body aircraft class.

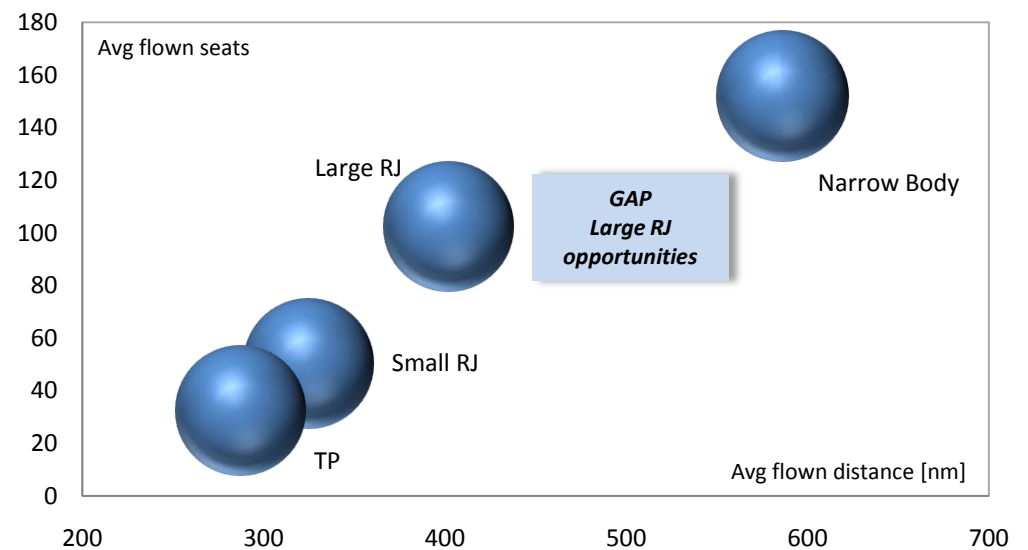
Liberalization and economic growth are the basis for China's development in the air transport sector and the growth in the middle class will require further connections linking not only main but also secondary cities.



## Airport 2011 traffic and year-on-year growth



## Intra China market structure



**Nominal GDP - 2011** US\$ 21,674 billions

**Average GDP next 20 years** +1.8 %

**Number of regional jets (active)** 980

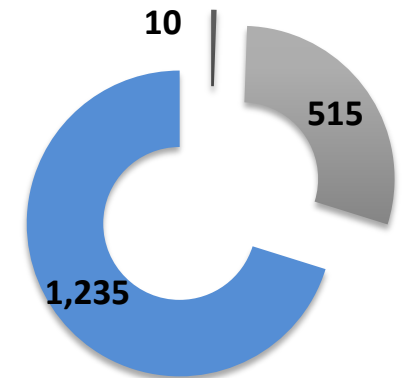
2012 may prove to be a very difficult year for the European market as a result of the ongoing financial crisis which is making it difficult or impossible for some countries to re-finance their government debts without the assistance of third parties. Grecian crisis and sovereign debts of some countries could even threaten the Euro's survival. The economy will remain weak and Europe will be hit harder than other areas. Also the recovery could be a "two speed" one. For example, 1Q 2012 growth was 1.7% for the 27 EU members and an average 11.5% considering Russia, Turkey, Norway and Iceland (source : AEA).

Air transport will feel the effects of this economic crisis. Despite 2011 being a very positive year (+4.8% increase in passengers for ERA members) IATA forecasts for 2012 1.1 USD billions in losses for European airlines who will be facing a very challenging year. Over the last months of 2011 and the first months of 2012, the industry saw the collapse of four airlines. Another result of the crisis is the consolidation of big groups in order to overcome the economic difficulties.

To date the three main European groups (Lufthansa Group, AF/KLM and the new International Airlines Group created after the merger between British Airways and Iberia) account for more than 30% of total intra-European flights.

European Low Cost Carriers continued to post year-on-year gains in passenger numbers and load factors across their short-haul networks in 2012. According to the OAG database, Ryan Air and Easyjet account for about 20% of total intra-European ASK. Their growth however is slowing : while Ryanair posted a +11% in FY2011 it is forecasting a +6% in 2013; Easyjet posted a +12.1% in FY2011 and is forecasting a +6.5% in 2013 (Source : RBS).

**2012-2031 total deliveries (jets only)**



■ 30-60 seat ■ 61-90 seat ■ 91-120 seat





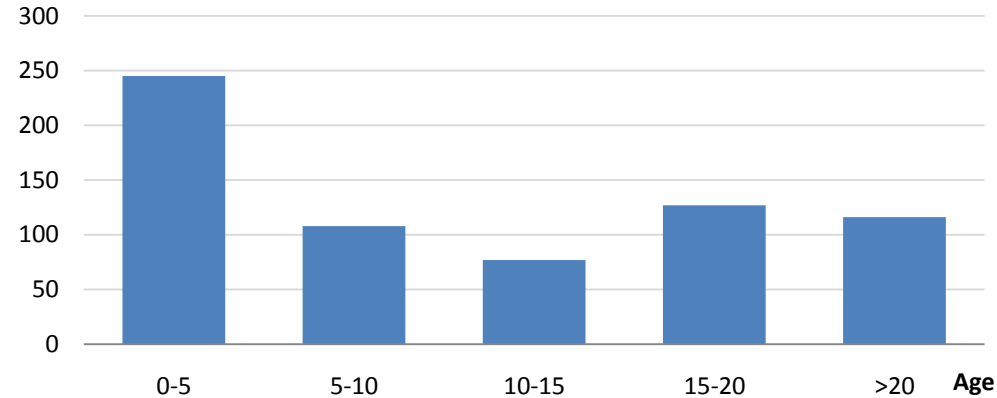
EU ETS will certainly represent a big challenge within the next years. Airlines will need to replace many older and inefficient aircraft with new ones in order to reduce their carbon emissions. Today, there are about 250 jet aircraft flying in Europe in the 50-120 seat segment which are over 15 years old. SJI forecasts that a large number of these aircraft will be replaced soon. Airline consolidation is another key aspect for the European market : congestion at main hubs will require the further development of secondary airports to be fed by regional aircraft.

Analyzing the trend over the last few years, it is clear that airlines are also utilizing their regional jets as a complement to narrow body aircraft during some off peak operations. Today, big regional jets are flying longer routes which were once “territory” only of bigger aircraft. This is due to their improved comfort and economics. Moreover, during crisis periods, airlines replace narrow body aircraft with 100 seat ones on some low load factor routes : this is the reason why despite the EU zone crisis we maintained the 20 year order forecast for the 91-120 seat market unchanged.

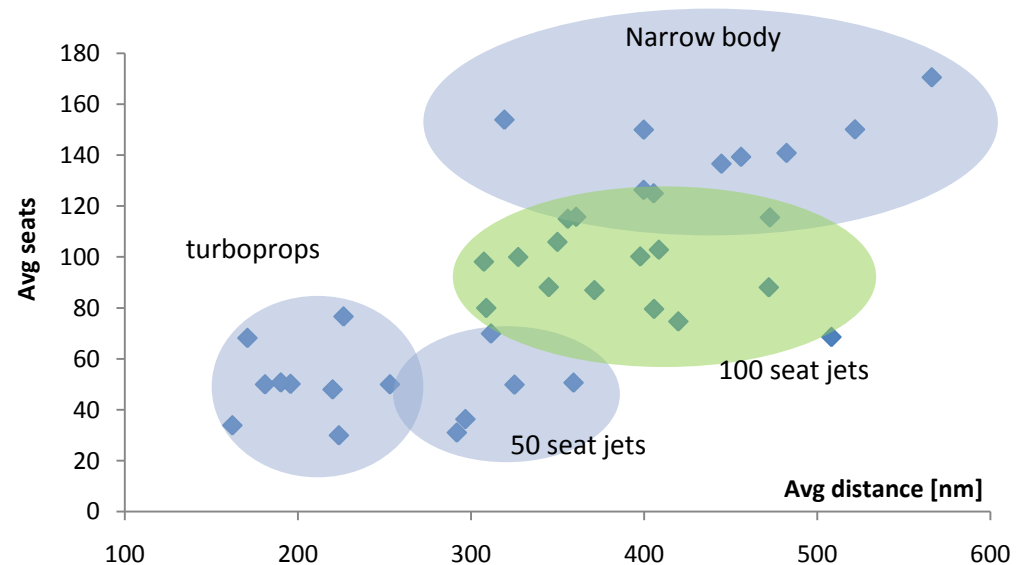
Opportunities could also arise in Low Cost Carriers that require 100 seat aircraft for mid density markets. A mixed fleet of narrow body and regional jets is the right choice to open new routes and serve markets



Number of 50-120 seat jet aircraft



Source : ACAS



Source : SJI Elaboration

# Latin America

**Nominal GDP - 2011** US\$ 5,606 billions

**Average GDP next 20 years** +4.3%

**Number of regional jets (active)** 266

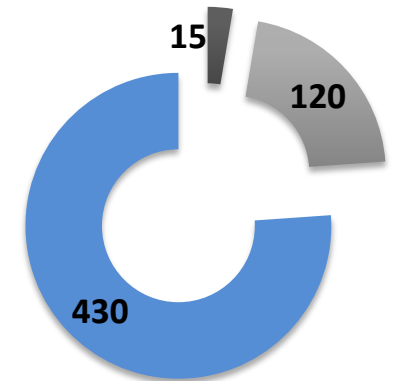
Air transport is used as a catalyst for regional development by improving connections within the countries to support economic growth. An example of this is Ecuador where the government has been giving airlines access to lower cost financing in order to buy new aircraft while subsidizing fuel for domestic routes.

Consolidation is another key point for the market. During 2010, AVIANCA and TACA completed their merger and in 2011 LAN and TAM also merged to create the third-largest airline in the world. These more competitive airlines will allow Latin America to have a greater stake in the airline market and to compete further with US based airlines.

Aviation has a long history in South America and is home to some of the world's oldest carriers. IATA has described this region as a "bright spot in the aviation world".

Even though the feeder airlines and regional air services are less developed than those in the US or EU, aviation liberalization (Fortaleza agreement and the Andean Pact) and rising GDP should stimulate growth in the sector. This rapid traffic growth is expected to occur due to the economic growth in the region. For example foreign direct investment increased 11 times since 1990, poverty has been reduced by 25% and 8.7 million middle class passengers flew for the first time in Brazil in 2011. In the last 10 years the GDP per capita has tripled in Argentina, Brazil and Chile with an increase of approximately 100% in the air travel rate in Brazil. It is also important to keep in mind that Brazil will host two of the worlds' biggest events - the 2014 football world championship and the 2016 Olympic games. These events will lead to additional investments and development of infrastructure.

**2012-2031 total deliveries (jets only)**



■ 30-60 seat ■ 61-90 seat ■ 91-120 seat



# Latin America

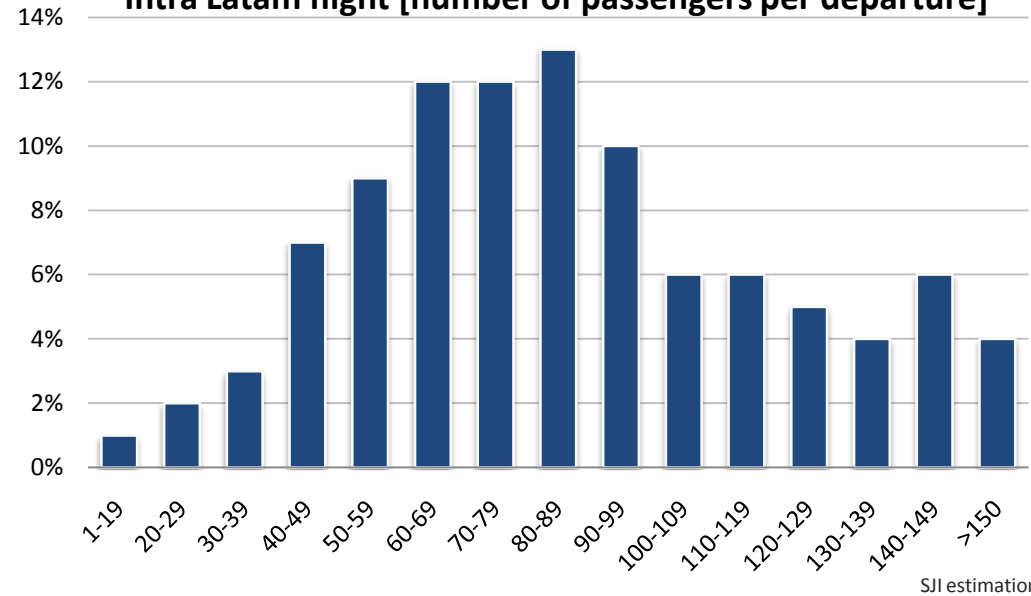
Right-sizing represents the best opportunity for regional air transport in Latin America as approximately 50% of the mainline flights within the continent are suited for an 100 seat aircraft .

The market is concentrated along the main hubs with a well developed hub and spoke system. Five main groups represent approximately 75% of the total market and over 30% of flights are operated from congested airports. The development of secondary hubs will permit the linking of more cities with direct flights increasing airlines' profitability.

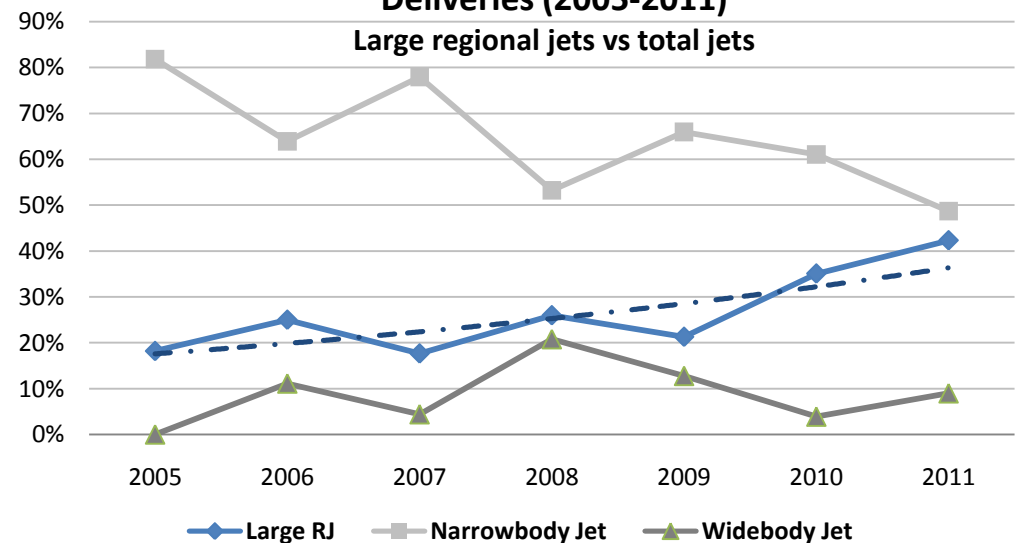
This region is characterized as having one of the world's youngest airline fleet with many aircraft having been delivered in the last few years. Notwithstanding this, replacement opportunities may arise in the next few years within different market segments. For example the 60-120 seat jet market has an non-homogeneous behavior : while the new models are very young (less than 3 years average age) the oldest models are very old (about 25 years). Also in the narrow body market many old aircraft will need to be replaced with 100 seat ones on some low load factors routes.



**Intra Latam flight [number of passengers per departure]**



**Deliveries (2005-2011)**  
Large regional jets vs total jets





**Nominal GDP - 2011** US\$ 17,089 billions

**Average GDP next 20 years** +2.7 %

**Number of regional jets (active)** 1962

The United States is still the first worldwide economy and the primary superpower. The US has one of the most mobile populations on the planet thanks to its commercial aviation. Air transport is an important part of its economy generating about \$1.3 trillion in annual US economy activity and 10.5 million jobs and accounts for up to 5.2% of internal GDP.

Despite the fact that on a relative basis it will have decreased significantly, North America will remain the largest market for regional aircraft also in the next years. The American Federal Aviation Authority (FAA) forecasts an average yearly increase in Revenue Passenger Miles (RPMs) of up to 3.6% for regionals higher than mainline 2.7% for the 2012-2032 timeframe.

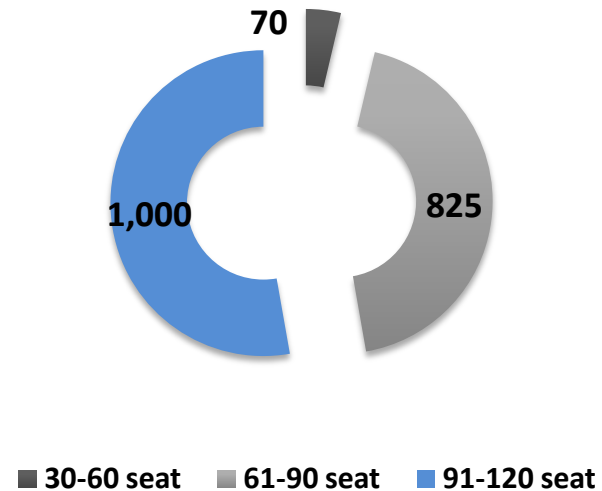
US airlines have gone through a decade of dramatic restructuring : in recent years their airline industry has seen a very strong trend toward merging and consolidation (United-Continental, Southwest-AirTran, Delta-Northwest). Also in the regional market growth by acquisition has been used in the past years to reduce costs and to diversify the business (SkyWest-ExpressJet-ASA, Pinnacle-Mesaba, Trans State-Compass).

Airline interest in the US is likely to focus on the 91-120 seat jets particularly if there will be a relaxation in the scope clause.

Challenges are the re-negotiations between majors and regionals (fee for departure) so many regionals could go alone with bigger aircraft in an hybrid model under which they control scheduling, ticketing, pricing and seat inventories paying for its own fuel.

Fuel remains the industry's largest and most volatile cost – threat to go-forward earnings. Over the last two decades, airline revenues have grown on average 4.9% annually with a standard deviation of 7.9%. In the same period jet fuel prices have grown on average 10% annually with a standard deviation of 27.5%

**2012-2031 total deliveries (jets only)**

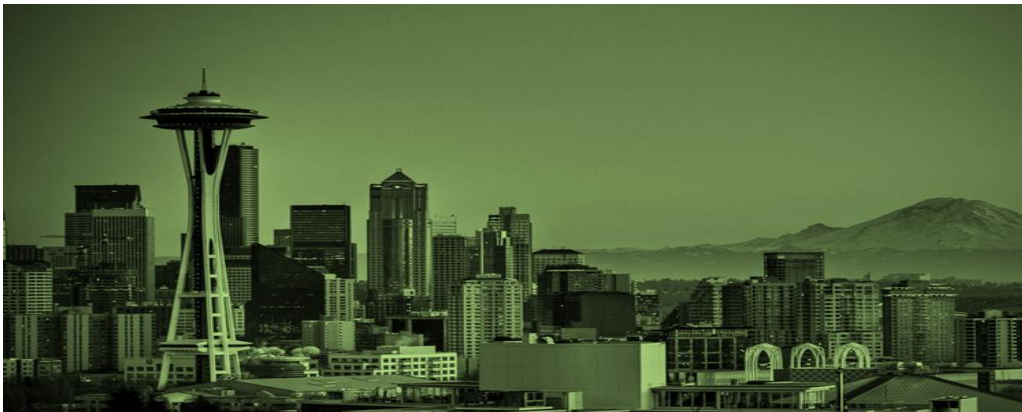


# North America

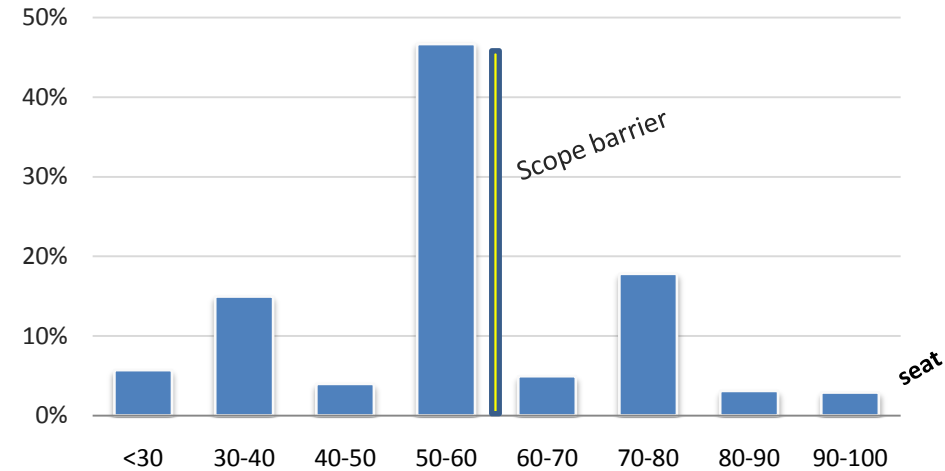
The scope clauses are still the major barrier to the regional market development, constraining the deployment of right-sized aircraft on some routes. Merging activities and discussions on going between airlines and pilots' unions could lead to some scope relaxations. In the meantime, US carriers are for the first time introducing double class regional jets into their fleet with the aim of complying with the scope clause and increasing yield values. In our forecast we have assumed a slight relaxation of the scope clause in the coming years with a shifting demand between seat categories.

Today more than 1,000 50 seat regional jets are flying in North America. About 70% of them are under operating or sub-leasing contracts expected to expire in the next 7-8 years. Many of them will be transferred to emerging markets (mainly Africa and Latin America) due to their non attractive economics and some others will be replaced by larger capacity ones.

Opportunities in North America could also arise for Low Cost Carriers (LCC) that having limited room for further domestic expansion may look to have a fleet composed of 100 seat jet aircraft as a complement to narrow body.

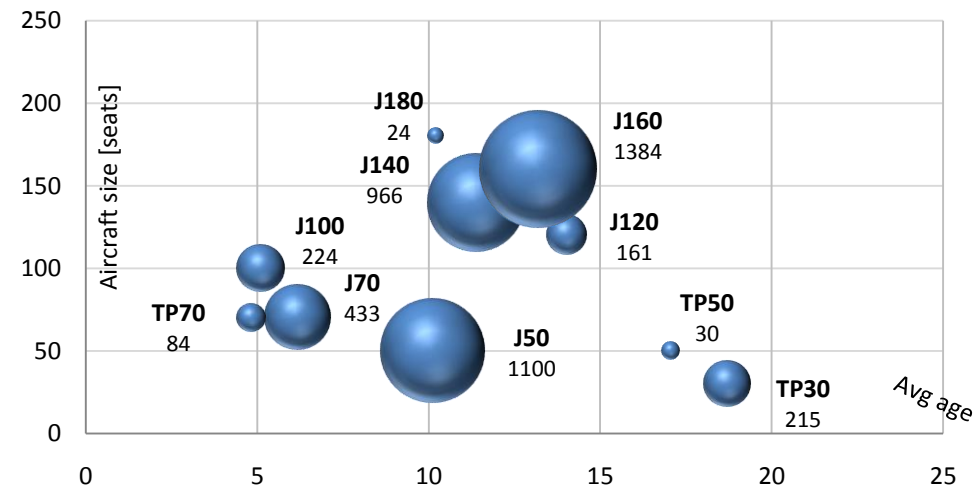


Scope clause effect [% of monthly frequencies]



Source : SJI elaboration of OAG data  
A/C>19 seats considered

US Fleet Composition



Source : ACAS



*Foreword*



*Forecast*



*Regional overview*



*Sources*

“Creativity is knowing how to  
hide your sources”

**Albert Einstein**

1921 Nobel Prize in Physics



# Geographic areas

## **North America**

- Canada
- U.S.A.

## **Latin America**

- Caribbean
- Central America (including Mexico)
- South America

## **Europe**

- EU
- EU candidates
- Norway
- Russia&CIS
- Switzerland
- Turkey

## **China**

- Hong Kong
- Macau
- Mongolia
- PRC
- Taiwan

## **Asia Pacific**

- Australasia
- India
- Japan

## **Africa & Middle East**

- Africa
- Middle East (including Israel)



ACAS	AirCraft Analytic System database
AEA	Association of European Airlines
ALTA	Latin America and Caribbean Air Transport Association
CAAC	General Administration of Civil Aviation of China
Commercial Aviation	
ERAA	European Regional Airline Association
EU	European Union
FAA	Federal Aviation Administration of the United States of America
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
OAG	Official Airlines Guide
RAA	Regional Airline Association
RBS	Royal Bank of Scotland
Ryanair	





“τί τάχιστον; Νοῦς. Διὰ παντός γὰρ τρέχει”

**Thales of Miletus**  
Greek Philosopher

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