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The airline industry continues to grow and thrive with a forecasted 3.3 billion passengers in 2014.
This Commercial Aircraft Market Forecast provides Bombardier’s 20-year view of the market for 20- to 149-seat aircraft.

This year marks the 100th anniversary of the first commercial airline flight. From its primitive beginnings with a two-seat wooden aircraft, the airline industry continues to grow and thrive with a forecasted 3.3 billion passengers in 2014, or nine million daily passengers on 100,000 daily flights.

**GROWING AND PROFITABLE INDUSTRY**

Bombardier remains confident that continuing economic growth will increase demand for air travel over the next 20 years.

Airline passenger demand has historically been highly correlated to economic growth, as measured by Gross Domestic Product (GDP). IHS Global Insight raised its long-term forecast of global GDP growth from 3.2% last year to 3.3% compound annual growth rate (CAGR) in 2014, an increase of 0.1 percentage points. IHS forecasts that the emerging regions of Africa, Greater China, India, Latin America and the Middle East will have a higher than world average GDP growth rate while Asia Pacific, Europe, North America, and the Commonwealth of Independent States (CIS) will have below world average GDP growth over the 20-year period.

Today, the airline industry supports $2.4 trillion in economic activity and 58 million jobs in aviation and related tourism – about 3.5% of global GDP.
The financial outlook for the world’s airlines is improving as economic growth returns to most regions. Demand for air transportation remained strong through 2013. International Air Transport Association (IATA) is forecasting a 5.9% year-over-year increase in revenue passenger kilometres (RPKs) in 2014 and reports that the global average load factor reached 78.7% for the first four months of 2014. This will be the second consecutive year of improved profitability resulting from positive economic growth, improved business confidence and relatively stable but high fuel prices.

Global airline revenues have increased from $476 billion in 2009 to $710 billion in 2013. According to IATA, the global airline industry recorded a net profit of $10.6 billion in 2013 and a net profit of $18 billion in 2014 is forecasted.

**MATURE VS. EMERGING MARKET DYNAMICS**

In mature markets, such as North America, Europe, Oceania and Northeast Asia (Japan and South Korea), the airline industry is highly evolved with carriers operating fleets of aircraft with varying capacities to match market demand. Most new 20- to 149-seat aircraft deliveries to mature aviation markets will replace retiring aircraft fleets.

In emerging markets, demand for air travel is growing with increasing GDP and an expanding middle class. The airline industries in the emerging countries of Asia Pacific, Greater China, India, Latin America and the CIS are at different stages in their development, but all will require aircraft with different seat capacities and operating economics to meet passenger demand. The majority of new 20- to 149-seat aircraft deliveries to emerging regions will accommodate fleet growth.
The airline industry continues to evolve with new business models capturing an increasing share of passenger demand.

Network carriers are consolidating and investing in carriers based outside their home markets. The regional airline industry includes airlines affiliated with network carriers and independent carriers that feed their own networks. Low cost carriers (LCC) are introducing second aircraft fleet types to penetrate new markets or focusing on becoming ultra low cost carriers (ULCC) with a no-frills business model that stimulates new demand.

In North America, and to a lesser extent in Europe, the fleet composition of regional airlines affiliated with network carriers is closely tied to the scope clause agreements that are part of network carrier pilot labour agreements. Bombardier believes that scope clauses will gradually relax to include the addition of more large-capacity regional aircraft, both jets and turboprops.

**THE 20- TO 149-SEAT MARKET**

Over the next 20 years, Bombardier forecasts demand for 13,100 aircraft deliveries in the 20- to 149-seat seat segment valued at $658 billion.¹

Some 400 aircraft in the 20- to 59-seat range will be required, worth $8 billion. New aircraft deliveries in this segment will continue at a modest pace for the duration of the forecast period as aged aircraft are retired and replaced with larger types. The low trip costs of 20- to 59-seat turboprops and regional jets are well matched to small markets, off-peak demand on heavily-travelled routes, and premium markets requiring high frequency

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¹ Bombardier Commercial Aircraft Market Forecast 2014-2033
The 100- to 149-seat aircraft segment will enjoy the strongest growth, with delivery demand for 7,100 aircraft.

service. The development of new generation 20- to 59-seat aircraft is expected later in the forecast period with the availability of new technology, including more efficient engines.

The 60- to 99-seat aircraft market will see substantial growth over the forecast period with delivery demand for 5,600 aircraft worth $185 billion. Large regional jets and turboprops will become an increasingly important tool for network connectivity between major, secondary and tertiary airports. Some of the fleet growth in this segment will be a result of airlines up-gauging to larger aircraft with more seat capacity, lower seat-kilometre costs and flexible cabins that can accommodate multiple seat classes. In the last round of airline pilot negotiations in the United States, the relaxation of scope clause conditions stimulated orders and options for more than 450 large regional jets. In other regions, high fuel prices favour the use of large turboprops, with high-speed turboprops best suited to replace 20- to 59-seat jets. Overall, demand for regional aircraft with between 60 and 99 seats will be evenly split between turboprops and jets.

The 100- to 149-seat aircraft segment will enjoy the strongest growth, with delivery demand for 7,100 aircraft worth $465 billion. This segment has not been the focus of aircraft development for at least the past two decades. The arrival of new-technology, clean-sheet design aircraft optimized for the 100- to 149-seat segment will accelerate the economic obsolescence of previous-generation aircraft, challenge re-engined and legacy aircraft, and reinvigorate aircraft demand in this segment. New clean-sheet aircraft will take full advantage of next generation engines that offer a substantial reduction in fuel consumption, maintenance costs, greenhouse gas emissions and external noise.

1 Based on estimated aircraft list prices in 2013 USD.
Over the next 20 years worldwide GDP is projected to grow at a compound annual growth rate of 3.3%
ECONOMIC GROWTH

According to IHS Global Insight, worldwide GDP is projected to grow at a compound annual growth rate (CAGR) of 3.3% over the next 20 years, which is an increase of 0.1 percentage points from the 2013 forecast.

Regionally, economies outside North America and Europe are expected to lead the world in GDP growth from 2013 to 2033. IHS forecasts that India will have the strongest GDP CAGR at 6.5%, followed by Greater China at 6.1%, Africa at 4.6%, the Middle East at 3.8%, Latin America at 3.7%, the CIS at 3.1% and Asia Pacific at 2.5%. The North American economy is expected to grow at 2.5%, with Europe trailing at 1.8%.
Growth in airline passenger traffic is directly linked to changes in a population’s propensity to travel. The propensity to travel increases exponentially when GDP per capita enters the $5,000 to $15,000 per year threshold. Increased demand for air travel drives increased demand for aircraft.

The Organization for Economic Co-operation and Development (OECD) estimates that middle class consumer spending, as a reflection of a region’s per capita GDP, will expand rapidly in emerging markets.

According to OECD, the size of the global middle class could increase from 1.8 billion people in 2010 to 4.9 billion by 2030, with up to 85% of this growth in Asia Pacific, Greater China and India, which together account for less than a quarter of the world’s middle class today. Greater China and India are expected to experience the greatest percentage growth in air travel demand.
Sustained high oil prices influence airline decisions to replace or retire less efficient aircraft types.

Forecasting high oil prices presents a challenge for the world airline industry. Jet fuel – which closely tracks the price of crude oil – is airlines’ largest single expense, now accounting for some 30% of operating costs on average.

Current forecasts by the U.S. Energy Information Agency (EIA) indicate that the price of oil will average $107 USD between 2014 and 2033. Sustained high oil prices influence airline decisions to replace or retire less efficient aircraft types. This impact is evident in the increased demand for new generation, fuel efficient turboprop and jet aircraft. For example, fuel efficient turboprops have become increasingly attractive investments, with high-speed turboprops capable of replacing jets on routes of stage length 1,100 kilometres or more – at least 300 kilometres beyond the typical coverage of conventional turboprops.
Air travel remains a central building block of future prosperity and continuing development.
EVOLUTION OF AIRLINE BUSINESS MODELS

Today’s global airline industry has grown and diversified. Where once airlines could easily be categorized as network carriers, regional carriers, or low cost carriers (LCC), the segmentation of airlines has fragmented leading to more specialized business models, each with its unique characteristics: network carriers; franchise, independent and national regional carriers; low cost carriers (LCC), hybrid low cost carriers and ultra low cost carriers (ULCC).

Network carriers primarily operate aircraft with 100 seats or more over hub-and-spoke networks to serve many markets, both domestic and international. Airline consolidation has been very pronounced at network carriers, particularly in North America and in Europe as a result of the economic downturn beginning in 2008, cost pressures, high fuel prices and relentless competition. Network carriers are focused on replacing older aircraft with newer, more efficient aircraft to reduce unit costs. Furthermore, partnership agreements through alliances, code-sharing or franchise agreements are often used by these carriers to increase their market penetration.

Franchise regional carriers are contracted by network carriers to provide high-frequency service on short- and medium-haul hub-and-spoke routes that connect small- and medium-sized communities to global airline networks. Their fleets of turboprops and regional jets are optimized to right-size capacity to match passenger demand on routes that cannot be profitably and frequently served by larger jets. By specializing in the operations of regional aircraft, regional carriers maintain lean cost structures that align with the needs of their partner airlines.
Independent and national regional carriers provide a wide range of domestic and international air services using diverse aircraft fleets. These airlines are evolving with a combination of regional aircraft and larger jets that have the right capacity to serve the variety of markets in their networks.

LCCs historically operated a standardized aircraft fleet on point-to-point services connecting large- and medium-sized markets. The focus of the business model is to keep costs low, aircraft utilization high and use low fares to stimulate air travel demand. LCCs have captured a significant share of the traditional leisure and business passengers from network carriers and are now present in nearly every region of the world, representing a significant market challenge to network carriers.

The LCC market is evolving with hybrid LCCs emerging that have added a second aircraft type to supplement their fleets of large single-aisle jets. High-speed turboprops with low unit costs are being used to extend service and penetrate new markets that cannot be profitably served with large single-aisle jets. Modern, large regional aircraft and 100- to 149-seat aircraft will enable hybrid LCCs to expand their networks and continue their growth trajectory.

Another development is the ultra low cost carrier (ULCC) business model. Passengers of ULCCs pay a base fare while additional “ancillary fees” are required for all other services beyond flying from A to B. ULCCs have become the fastest growing and most profitable airlines in the United States. The business model is now appearing in other regions, such as Latin America.
In emerging markets, airlines can benefit from the greater use of regional jets and turboprops to right-size aircraft capacity to market demand.

The common thread that runs through all evolutions of business models in the airline industry is the imperative to drive down operating costs to remain profitable and competitive. As the airline industry evolves, there is a continuing need for each airline business model to right-size aircraft capacity so that unit costs and trip costs match market demand.

Aircraft lessors are playing an increasingly active role in the 20- to 149-seat segment with orders for large turboprops, regional jets and new generation single-aisle aircraft. The expansion of leasing company portfolios to include 20- to 149-seat aircraft provides airlines with greater business and fleet flexibility.

**AIRLINE LABOUR COSTS AND SCOPE CLAUSES**

Labour costs are typically an airline’s second largest expense, after fuel.

In mature markets, network carriers have long utilized regional carriers with lower labour costs to serve small- and medium-sized markets, as well as premium markets requiring high-frequency service with regional aircraft.

In emerging markets, airlines can benefit from the greater use of regional jets and turboprops to right-size aircraft capacity to market demand and develop new markets.
Orders for large regional aircraft are stimulated by the relaxation of restrictions defined by scope clauses.

One significant market constraint, particularly evident in North America, has been "scope clauses" negotiated between network carriers and their unionized pilots. These contractual agreements restrict the use, number and seating capacity of regional aircraft flying on behalf of a network carrier. Orders for large regional aircraft are stimulated by the relaxation of restrictions defined by scope clauses. Over the forecast period, the assumption – based on historical evidence – is that scope clauses will continue to evolve, allowing the operation of larger regional aircraft by regional carriers. This evolution is driven by network airlines’ imperatives for cost efficiency and continued network coverage.

CURRENT AIRCRAFT FLEET

Commercial passenger aircraft in the 20- to 149-seat segment totaled 10,800 units in-service as of December 31, 2013. In the 20-to 59-seat segment, there were 3,400 passenger aircraft in-service, comprised of 1,600 regional jets and 1,800 turboprops. In the 60- to 99-seat segment, there were 2,750 aircraft in-service, comprised of 1,800 regional jets and 950 turboprops. In the 100- to 149-seat segment, there were 4,650 aircraft in-service.

Twenty percent of the passenger aircraft in the 20- to 149-seat segment are more than 20 years old. These aircraft represent a near-term replacement opportunity.

Only 40% of the 20- to 149-seat aircraft fleet is flying with airlines in emerging regions. This share will grow as additional 20- to 149-seat aircraft are delivered to accommodate growth in traffic demand.
The increasing pace of aircraft retirements will have a positive impact on demand for new aircraft in the 20- to 149-seat segment.

**AIRCRAFT RETIREMENTS**

Economic and technological obsolescence, as well as environmental regulations, are expected to drive aircraft retirements throughout the forecast period. The increasing pace of aircraft retirements will have a positive impact on demand for new aircraft in the 20- to 149-seat segment.

The forecasted removal of aircraft from service is modelled using retirement curves that are based on aircraft age and derived from historical analysis. Other factors considered in the timing of forecasted retirements include airline network growth and brand strategies; entry-into-service dates for new-technology aircraft and engines; aircraft size and capacity; operating and maintenance costs; and environmental regulations regarding noise and emissions, and associated fees. Increasingly stringent International Civil Aviation Organization / Committee on Aviation and Environmental Protection (ICAO/CAEP) noise and emission standards will push airlines to modernize their fleets.

Bombardier’s forecast assumes that a majority of the current 20- to 59-seat aircraft fleet will be replaced by larger capacity 60- to 99-seat turboprops and regional jets. A portion of the 20- to 59-seat fleet will be sustained through the forecast period, replenished by new aircraft deliveries and service life extensions of existing fleets. The availability of more efficient, new-generation 100- to 149-seat aircraft will fuel a replacement cycle in this segment as more than 1,400 aircraft are already more than 20 years of age and an additional 1,700 aircraft in this segment will reach that age within the next ten years.
The aviation industry has committed to carbon-neutral growth by 2020 and a 50% reduction in carbon emissions from 2005 levels by 2050.

**AIRLINES AND THE ENVIRONMENT**

Environmental issues and new environmental regulation will increasingly shape the world’s airline industry over the forecast period. These issues can be broadly categorized as: local air quality, aircraft emissions and community noise. The aviation industry – aircraft manufacturers, airlines, airports, air navigation providers and international bodies – has consistently improved its environmental performance throughout its history and will continue to do so.

The aviation industry has committed to carbon-neutral growth by 2020 and a 50% reduction in carbon emissions from 2005 levels by 2050. The application of new technology in aircraft designs will be paramount in meeting these commitments, with Bombardier to fly new-generation aircraft conceived and designed for optimal environmental efficiency.

**MORE EFFICIENT AIRCRAFT AND OPERATIONS**

Fuel saving technology, the implementation of improved operational procedures, and the optimization of networks and fleets will become increasingly important to airlines throughout the forecast period.

Over the next 20 years, the 20- to 149-seat segment will see the incremental improvement of existing aircraft, the development of new clean-sheet commercial aircraft, and the application of the right-size and right-type of aircraft to networks as airlines strive to remain competitive and cost-efficient.

Turboprop aircraft accounted for roughly half of the 20- to 99-seat aircraft deliveries in 2013. Continuing high fuel prices favour the low fuel consumption and operating costs of turboprop technology for short-haul routes.
High-speed turboprops are being used to replace regional jets in hub-and-spoke networks, to supplement larger aircraft at off-peak times, and to fly point-to-point routes with a high standard of passenger comfort and little or no change in block flight times.

Regional jets in the 20- to 99-seat segment continue to play a very important role serving medium-haul regional markets. The large installed fleet of 20- to 59-seat jets continues to provide low trip costs to connect regional markets to global networks.

In North America, the relaxation of scope clause agreements has allowed regional airlines to up-gauge from 50- to 76-seat regional jets, often featuring two- and three-class seating configurations that provide a seamless product for passengers connecting to mainline flights. In Europe, regional airlines are up-gauging to large-capacity regional jets to achieve the lower seat-kilometre costs required to compete in a marketplace with more LCCs.

The 100- to 149-seat aircraft segment will be stimulated by the arrival of new clean-sheet designs powered by next-generation engines. These new-generation aircraft offer a substantial reduction in fuel consumption, maintenance costs, greenhouse gas emissions and external noise. The entry-into-service of new clean-sheet designs is expected to accelerate the economic obsolescence of older- and present-generation aircraft.
IATA reports that the number of city pairs receiving scheduled airline service has doubled in the past 20 years. This is the result of economic growth and an expanding middle class, as well as demand stimulated by frequent air service and low fares.

When it comes to passenger demand, there are more opportunities to develop new markets in small- and medium-sized cities than in established large markets. Bombardier has identified more than 8,950 Origin and Destination (O&D) city pairs within 5,550 kilometres with demand of between 50 and 250 passengers per day each way (PDEW). Opportunities to grow small O&D markets outnumber large markets in all regions, including North America (56%), Europe (80%), the CIS (85%), Asia Pacific (61%), Africa (86%), Latin America (71%), the Middle East (77%), Greater China (62%) and India (64%).

These new market opportunities are most economically and efficiently served by 20- to 149-seat aircraft that are ideally sized to develop smaller O&D markets and establish daily non-stop connections. Airlines with a combination of aircraft with low trip costs and low seat-kilometre costs will have the flexibility needed to profitably match capacity to demand and maintain connectivity to smaller markets.
Forecasted demand for 20-to 149-seat commercial aircraft is expected to reach 13,100 deliveries in the 20-year period from 2014 to 2033.
The 2014-2033 Bombardier Commercial Aircraft Market Forecast for 20- to 149-seat aircraft is divided into three seat segments. The 20- to 59-seat segment will experience low demand for new aircraft and the in-service fleet will steadily decline as aircraft are retired and migrate to secondary markets, such as air freight. The 60- to 99-seat segment will continue to see strong growth in both the turboprop and regional jet categories. The entry-into-service of new-technology, clean-sheet aircraft designs using new-generation engines will reinvigorate the 100- to 149-seat segment.

**ASSUMPTIONS**

All forecasts have an underlying set of assumptions and drivers. The assumptions for this forecast include:

- Demand for air travel is directly related to economic growth and per capita wealth creation over the long-term
- 3.3% average growth in global GDP over the forecast period
- Infrastructure will support growth in demand for air travel
- $107 per barrel average reference oil price
- Increasing environmental regulation and rising fuel prices will affect fleet mix and encourage carriers to seek aircraft with lower fuel consumption and emissions
- Contractual restrictions on airline operations based on aircraft size and engine type will ease over time
- Airline markets will continue to be opened to greater competition through liberalization of international air transportation agreements
Demand for new commercial aircraft is directly related to the strength of the global economy.

**METHODODOLOGY**

The Bombardier Commercial Aircraft Market Forecast is a top-down forecast of aircraft deliveries expected during the next 20 years. Econometric modelling of the historic relationship between GDP, population, and fleet seat growth is used to forecast the demand for aircraft deliveries, driven by a predictor (changes in GDP), which forecasts changes in fleet seats.

Key quantitative inputs include in-service fleet data and third-party forecasts for GDP, population and fuel price. Qualitative inputs include labour contracts (e.g. scope clauses), market liberalization, infrastructure development and environmental policies. The forecast is conducted at a regional level with the world forecast a roll-up of the results of nine regions.

**FORECAST SUMMARY**

Forecasted demand for 20- to 149-seat commercial aircraft is expected to reach 13,100 deliveries in the 20-year period from 2014 to 2033. The forecasted delivery demand is valued at $658 billion.²

Demand for new commercial aircraft is directly related to the strength of the global economy. In this 20-year forecast, the GDP CAGR forecast has increased to 3.3% from 3.2% last year.

² Based on estimated aircraft list prices in 2013 USD.
This year’s forecast continues to reflect the shift in demand to larger-capacity commercial aircraft:

- In the 20- to 59-seat aircraft segment, Bombardier forecasts delivery demand of 400 new aircraft
- In the 60- to 99-seat aircraft segment, Bombardier forecasts delivery demand of 5,600 new aircraft
- In the 100- to 149-seat segment, Bombardier forecasts delivery demand of 7,100 new aircraft

Driving the 13,100 deliveries will be replacement of 7,600 aircraft to be retired in the 20- to 149-seat segment augmented by growth in the overall fleet of 5,500 units from 10,800 aircraft in-service at the beginning of 2014 to 16,300 at the end of 2033. Overall fleet growth will be 51%, representing a CAGR of 2.1%. About 58% of deliveries will replace retired aircraft and 42% of deliveries will accommodate fleet growth.

The 20- to 59-seat segment will generate $8 billion in new aircraft sales, the 60- to 99-seat segment $185 billion in sales ($85 billion for turboprops and $100 billion for regional jets), and the 100- to 149-seat segment $465 billion in sales over the next 20 years.

High fuel prices will continue to favour the operating economics of turboprop aircraft over regional jets on short-haul routes. In fact, turboprops are now expected to account for half of the 5,600 deliveries in the 60- to 99-seat segment.
Bombardier forecasts deliveries of 13,100 aircraft in the 20- to 149-seat segment over the next 20 years.

Source: Bombardier Commercial Aircraft Market Forecast 2014-2033
20- TO 59-SEAT SEGMENT

The regional airline market continues to evolve and with it a preference for larger regional aircraft. The entry-into-service of the 50-seat Bombardier CRJ100 in 1992 shifted demand from smaller commuter aircraft. The rapid growth of the regional jet fleet substantially increased the number of passengers connecting at hub airports from secondary airports.

Today, there are 3,400 regional jets and turboprops with 20- to 59-seats operating commercial passenger service. The 400 new deliveries in the 20- to 59-seat segment will be offset by 2,800 retirements as the fleet declines to about 1,000 aircraft by 2033.

High fuel prices have sustained modest turboprop production and helped maintain a strong pre-owned aircraft market. However, continuing relaxation of scope clause agreements has shifted regional jet demand towards larger aircraft with similar trip costs, but lower seat-kilometre costs. The air freight market is expected to absorb used 20- to 59-seat turboprops and regional jets, replacing older, less efficient freighters.
In the Asia Pacific, network carriers have introduced large regional jets to right-size capacity across their networks.

**60- TO 99-SEAT SEGMENT**

The 60- to 99-seat aircraft segment is one of the most dynamic in commercial aviation with growth being driven by the evolving relationship between network carriers and regional airlines. Bombardier foresees the fleet increasing 2.5 times over the forecast period, with new aircraft deliveries evenly split between large turboprops and large regional jets.

Deliveries of 5,600 new aircraft and retirements of 1,500 aircraft will result in the fleet growing from 2,750 to 6,850 aircraft in 2033. Low-speed performance enables turboprops to serve airports with short runways, while continued high oil prices will favour the use of large turboprops on short-haul routes. Recent trends include expanding use of large high-speed turboprops to replace and supplement jets on short- and medium-haul routes. This shift has allowed airlines to increase capacity and revenues with a high standard of passenger comfort while reducing fuel burn with little or no change in block flight times.

Bombardier expects that scope clause provisions in network carriers’ pilot contracts in North America will continue to evolve to allow the use of larger-capacity regional jets and turboprop aircraft.

In other regions, such as Asia Pacific, network carriers have introduced large regional jets to right-size capacity across their networks, countering the expansion of LCCs, while hybrid LCCs around the world are turning to large turboprops to continue their growth trajectories by penetrating new markets.
Nearly half the new 100- to 149-seat aircraft deliveries will be replacement aircraft and half will be for growth markets.

100- TO 149-SEAT SEGMENT

The 100- to 149-seat aircraft segment will witness a major fleet transformation with the entry-into-service of new clean-sheet aircraft designs powered by new-technology engines that will provide a step-change in efficiency.

These new-generation aircraft will have significantly lower trip and seat-kilometre costs than current aircraft models. From a current base of 4,650 aircraft, the segment will see 7,100 new aircraft deliveries and 3,300 retirements as the fleet grows to 8,450 units in 2033.

The largest share of the world's 100- to 149-seat aircraft fleet is found in North America (36%), Europe (21%), Latin America (11%) and Greater China (9%). More than 1,400 aircraft in this segment are already more than 20 years of age and an additional 1,700 aircraft will reach that age within the next ten years.

Nearly half the new 100- to 149-seat aircraft deliveries will be replacement aircraft and half will be for growth markets. The largest markets for new deliveries will be in North America (27%), Greater China (20%), Europe (13%) and Asia Pacific (10%).

With IATA forecasting world airlines to earn an average net margin of just 2.4% in 2014, the airline industry will increasingly look to new-technology aircraft to reduce fuel expenses and improve operating and financial performance as well as meet ambitious environmental objectives regarding noise and greenhouse gas emissions.

Bombardier believes the 100- to 149-seat share of single-aisle deliveries will return to its historic norm as fuel economy and operating cost savings are validated for the new clean-sheet aircraft designs.
Global demand for air travel and new aircraft will continue to shift towards emerging markets.
North America and Europe have historically represented both the largest commercial aircraft fleets and the largest markets for new aircraft. During the next 20 years, 58% of delivery demand will be from other regions where traffic demand is growing faster.

Over the forecast period, North America is expected to account for 28% of new aircraft deliveries, Greater China 17%, Europe 14%, Asia Pacific 11%, Latin America 8.4%, the CIS 6.3%, India 5.8%, Africa 5.3% and the Middle East 4.1%.

Building from a small base, the growth of fleets in Greater China and India will be particularly strong as a result of strong economic growth, an expanding middle class and large-scale investments in regional infrastructure.
North America (excluding Mexico and the Caribbean) will continue to be the world’s largest commercial aircraft market during the forecast period.

IATA forecasts that North American airlines will have a net profit of $9.2 billion in 2014, a significant increase over the $7.0 billion profit recorded in 2013. This represents 4.3% of revenues, the highest profit margin of any geographic region and a catalyst for investment in fleet renewal.

North American GDP, while still the largest, will decline from a 25% world share in 2013 to a 23% share by 2033. Although economic growth rates will be lower than in emerging markets, 3,650 20- to 149-seat aircraft will be delivered to North America, representing 28% of all new deliveries. North American airlines will require 1,670 aircraft in the 20- to 99-seat segment and 1,980 aircraft in the 100- to 149-seat segment.

The United States’ air transportation network is the most developed in the world, but is evolving as airlines battle rising costs. While regional aircraft operate approximately 33% of commercial flights worldwide, 50% of all commercial flights in the United States are flown by regional aircraft with less than 100 seats. According to the Regional Airline Association (RAA), average capacity of U.S. regional aircraft has increased from 37 seats in 2000 to 50 seats in 2005 and to 56 seats in 2013. Average trip length increased from 476 kilometres in 2000 to 763 kilometres in 2013. These trends are expected to continue as new large regional aircraft replace 20- to 59-seat aircraft.

Deliveries of new 100- to 149-seat aircraft to North American airlines will replace less efficient older and present-generation aircraft, including more than 500 aircraft in this segment that are more than 20 years old and 750 additional aircraft that will be more than 20 years old in the next 10 years.
Over the next 20 years, Latin American economic growth is expected to average 3.7% per year.
European airlines will continue to evolve as competition from LCCs drive efficiencies across the entire industry.

The European economy is expected to expand at a rate of 1.8%, which is the lowest CAGR of any region in the forecast. As growth shifts to emerging markets, Europe will decline from 25% of the world’s GDP to 21% over the next 20 years.

Modest growth and the requirement to replace aging fleets will drive deliveries of 1,840 new aircraft, representing 14% of worldwide deliveries, with demand evenly split between the 20- to 99-seat and 100- to 149-seat segments.

The introduction of more efficient new-generation aircraft into European airline fleets will provide significant fuel and operating costs savings, with turboprops favoured in the 20- to 99-seat segment.

The European Regional Airlines Association (ERA) reports the average regional aircraft size increased from 63 seats in 2001 to 67 seats by 2013. European regional airline stage lengths are on average 483 km, which is shorter than in the US where the average is 763 km.

Carriers caught in the middle of the competition between LCC and network carriers have been fighting for survival by restructuring and searching for new sources of capital. Regional services operated on behalf of network carriers are transitioning to larger aircraft to drive down seat-kilometre costs while offering fewer frequencies.

Further consolidation is underway with several European carriers receiving new investments from Middle Eastern carriers. The previous lines of distinction between LCC and network carriers are also blurring as each takes new initiatives to lower their cost base while adding new services designed to capture greater market share and high-yield business travelers.

European operating costs are high as a result of regulation, congestion, fees and taxes. New investments in infrastructure are required at airports and in the air navigation system to ease congestion and improve connectivity. Left unresolved, passengers accustomed to low airline fares will spill to surface transportation modes.

Environmental sustainability is a high priority in Europe and is reflected in a committed push to include aviation in the E.U. Emissions Trading Scheme (ETS), even though the final form of this scheme is still being debated.
The CIS airline industry has been consolidating and modernizing. New fleet additions will accommodate growth and replace aging domestic-built passenger aircraft.

The CIS is forecasted to see a GDP growth rate of 3.1% over the next 20 years, slightly below the world average of 3.3%, but allowing the region to maintain a 3% share of world GDP over the forecast period.

The Russian commercial aviation industry is growing with almost 85 million passengers carried by domestic carriers in 2013, a 14.2% increase over the previous year.

From a base of 710 aircraft in the 20- to 149-seat segment, the CIS will account for 6.3% of worldwide demand with deliveries for 830 new aircraft. Demand will be heaviest in the 20- to 99-seat segment, accounting for 55% of deliveries (or 460 aircraft), with the balance of 370 deliveries in the 100- to 149-seat segment.

Bombardier’s forecast was revised upwards in 2012 when the Moscow-based Interstate Aviation Committee announced the grounding of a number of domestically-built aircraft fleets. This grounding created an immediate opportunity for new and used aircraft. Demand in the 2014 forecast has again been revised upward by 90 units compared to the 2013 forecast.

Consolidation of the industry continues with the five largest Russian carriers carrying 63% of passengers in 2013. Although barriers to entry have been increasing with current legislation deterring the start-up of new carriers, the CIS is still expected to be a growth market.

The CIS will account for 6.3% of global deliveries of 20- to 149-seat aircraft by 2033.

CIS Demand Distribution by Seat Segment

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<td>20- to 59-seat</td>
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Source: Bombardier Commercial Aircraft Market Forecast 2014-2033
The Middle East has seen strong GDP growth for two decades with Gulf governments leading commercial aviation developments by investing in airline and airport infrastructure.

Economic growth in the Middle East is forecasted to be above the world average, at 3.8% CAGR. IATA forecasts that Middle Eastern airlines will record a $1.6 billion net profit in 2014, up from $1.0 billion in 2013, with passenger traffic demand expected to grow by 13%, the highest of any region.

From a base of 280 20- to 149-seat aircraft, the Middle Eastern fleet will have delivery demand for 4% of world demand, or 540 new aircraft. Deliveries will include 160 20- to 99-seat seat regional aircraft and 380 100- to 149-seat aircraft.

The Middle East is playing a transformational role in the global aviation network as a result of its favourable geographic position as a hub adjacent to key emerging economic markets like India, China and Africa. The Arab Air Carriers Organization (AACO) reports that Middle Eastern airlines have experienced a 14.2% year-over-year increase in international passenger travel as of March 2014 with mega-hub airport development most pronounced in Dubai, Qatar and Abu Dhabi. Large carriers are making substantial investments in additional capacity, and in some instances, airlines located outside the region.

The addition of 20- to 149-seat aircraft to Middle Eastern airline fleets will support the development of hub-and-spoke networks and point-to-point services linking secondary airports.

Regional political instability has impacted intra-Middle Eastern traffic and airline financial performance, resulting in several airline failures. Local deregulation and liberalization is moving forward but there are challenges to overcome, including tight government controls used to protect national carriers.
While home to 1.04 billion people distributed across 54 countries, Africa is the smallest region by air traffic, accounting for just 2.8% of global revenue passenger kilometres (RPK). Africa’s GDP growth rate is forecasted to be the third highest of the regions at 4.6% CAGR for the next 20 years.

IATA forecasts that African airlines will record a $100 million net profit in 2014, reversing a $100 million loss in 2013, with passenger traffic expected to grow 5.8% in 2014.

From a base of 640 aircraft, the African 20- to 149-seat fleet will increase with 700 deliveries. The continent will see delivery demand for 440 20- to 99-seat regional and 260 100- to 149 seat single-aisle aircraft. Africa will receive 5.3% of forecasted world demand in these segments.

Economic growth, a demographic boom, increasing urbanization and the emergence of a middle class all contribute to Africa’s extraordinary potential. However, the continent is a high operating cost environment with cost containment particularly difficult in many African countries, according to IATA. This is the result of weak local currencies, high fuel prices that average 21% more than the world average price, and local infrastructure that is below international standards.

Many African nations have benefitted from Indian and Chinese investment and a few from oil exports, but political upheavals in North Africa, Egypt and elsewhere on the continent have reduced valuable tourist revenues.

Airline profitability is not spread evenly across the continent and a number of issues - from poor connectivity to high airport costs - hinder development. Air traffic is growing around hubs in Southern and Eastern Africa in Johannesburg, Addis Adaba and Nairobi, but no major hubs have yet emerged in West and Central Africa. The growing penetration of Middle Eastern carriers has challenged the connectivity advantage of East African hubs while European hubs have a long history of connecting points in Africa. Competition from offshore hubs constrains the growth and profitability of African carriers and the expansion of regional services to secondary and tertiary markets.

Other market imbalances exist between government-subsidized flag carriers and private carrier development. The slow pace of liberalization and over-dependence on bilateral agreements have stalled the international development of LCCs and regional carriers.

African airlines have historically experienced low load factors, in the 70% range, indicating a mismatch between seat capacity and passenger demand. Aircraft in the 20- to 149-seat segment are appropriately sized to support profitable route development.
A vast area, with many countries often separated by great distances, the Asia Pacific region can be subdivided into mature markets, such as Oceania and Northeast Asia (Japan and South Korea), and emerging markets that are currently seeing robust passenger growth, such as Southeast Asia.

The forecasted average GDP growth rate is 2.5%, below the 3.3% world average for the forecast period. The regional share of world GDP will decline from 16% in 2013 to 14% in 2033.

Averaging the GDP growth rates of countries within Asia Pacific does not tell the full story. Australia and New Zealand have a combined population of approximately 28 million and modest economic growth. Emerging countries, such as Indonesia, the Philippines, Vietnam, Thailand, Myanmar and Malaysia, have a combined population of more than 500 million people and much faster growth rates. The growth of air traffic in Association of Southeast Asian Nations (ASEAN) countries is averaging 13% per annum.

Asia Pacific (excluding Greater China and India) will see delivery demand for 1,400 aircraft over the next 20 years in the 20- to 149-seat segment. In total, 52% of deliveries (or 730 units) will be 20- to 99-seat aircraft and 48% (or 670 units) will be 100- to 149-seat aircraft.

The loosening of intra-region aviation regulations has resulted in a rapid increase in international air connections, with a growing middle class and the development of LCCs helping to create positive long-term growth. In fact, LCCs now account for approximately 60% of traffic in Southeast Asia. Competition has created a vibrant and intensely price sensitive market. However, competition for passengers has put downward pressure on yields, load factors and airline profitability, most notably in Thailand, Indonesia, Singapore and Malaysia.

The next step in LCC growth is uncertain, but the introduction of modern regional jets, turboprops and new-generation single-aisle aircraft with low seat-kilometre costs will provide the opportunity to extend service to the region’s numerous secondary and tertiary communities. Turboprops’ ability to serve short runways will enable the connection of even the most remote communities to the air transport system.

The mature Oceania and Northeast Asia aviation markets are seeing modest growth and new aircraft demand will primarily replace retiring aircraft.
Greater China’s demand for new aircraft is forecasted to be second only to North America.
The recent election of a majority government in India has created high expectations for pro-business initiatives. Economic forecasts predict annual GDP growth of 6.5%, which is nearly twice the world average of 3.3% over the forecast period, and the fastest of any region. India will grow from a 3% share of world GDP to a 4% share by 2033.

India is expected to require 5.8% of worldwide aircraft deliveries in the 20- to 149-seat segment, including 270 20- to 99-seat aircraft and 490 100- to 149-seat aircraft.

India’s large population, robust growth and expanding middle class have increased air travel demand. Expansion of existing airports and construction of new airports has been identified as a priority, but investment has lagged requirements, creating barriers to growth.

The Indian airline industry requires billions of dollars in new investment over the next decade to match demand. The expensive operating environment and low fares have consistently challenged profitability across the airline industry, resulting in near-term requirements for major cash infusions.

India presents many opportunities for the development of new air services to second- and third-tier airports that would be best served by modern regional jets, turboprops and new-generation single-aisle aircraft. In some regions, financial incentives are available for operators of aircraft with less than 80 seats, such as waived landing fees and lower jet fuel taxes to encourage regional airline services.
By the time he is 25, more than 13,100 new 20- to 149-seat aircraft will have been delivered around the globe.
The commercial aviation market is profitable and growing. The industry continues to evolve to manage growth, high fuel prices and increased competition. New business models are capturing an increasing share of passenger demand. As the airline industry evolves, there is a continuing need for each airline business model to right-size aircraft capacity so that unit costs and trip costs match market demand.

Over the next 20 years, the 20- to 149-seat segment will see continuous improvement of existing aircraft and the development of new clean-sheet commercial aircraft designs. This market will see delivery demand for 13,100 aircraft valued at $658 billion.

Aircraft in the 20- to 149-seat segment have a vital role to play in the development of new markets, non-stop connections and increased frequencies. About 70% of the world’s short- to medium-haul markets serve between 50 and 250 passengers per day each way (PDEW), and are best served by 20- to 149-seat aircraft.

The 60- to 99-seat aircraft segment will remain one of the most dynamic in commercial aviation. The fleet will more than double with new aircraft deliveries evenly split between large turboprops and large regional jets.

The 100- to 149-seat aircraft segment will witness a major fleet transformation with the entry-into-service of new clean-sheet aircraft designs which will significantly lower trip costs and seat-kilometre costs. More than 1,400 in-service aircraft are already more than 20 years of age and an additional 1,700 aircraft in this segment will reach that age within the next ten years.
This presentation includes forward-looking statements. Forward-looking statements generally can be identified by the use of forward-looking terminology such as “may”, “will”, “expect”, “intend”, “anticipate”, “plan”, “foresee”, “believe” or “continue” or the negatives of these terms or variations thereon or similar terminology. By their nature, forward-looking statements require BOMBARDIER to make assumptions and are subject to important known and unknown risks and uncertainties, which may cause BOMBARDIER’s actual results in future periods to differ materially from forecasted results.

While BOMBARDIER considers its assumptions to be reasonable and appropriate based on current information available, there is a risk that they may not be accurate. For additional information with respect to the assumptions underlying the forward-looking statements herein, please refer to the sections on BOMBARDIER’s aerospace segment and BOMBARDIER’s transportation segment in the Management’s Discussion and Analysis of BOMBARDIER’s Annual Report.

Certain factors that could cause actual results to differ materially from those anticipated in the forward-looking statements include risks associated with general economic conditions, risks associated with BOMBARDIER’s business environment (such as the financial condition of the airline industry, government policies and priorities and competition from other businesses), operational risks (such as regulatory risks and dependence on key personnel, risks associated with doing business with partners, risks involved with developing new products and services, warranty and casualty claim losses, legal risks from legal proceedings, risks relating to the Corporation’s dependence on certain key customers and key suppliers, risks resulting from fixed term commitments, human resource risk and environmental risk), financing risks (such as risks resulting from reliance on government support, risks relating to financing support provided on behalf of certain customers, risks relating to liquidity and access to capital markets, risks relating to the terms of certain restrictive debt covenants and market risks, including currency, interest rate and commodity pricing risk).

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All monetary amounts are expressed in 2013 U.S. dollars (USD), unless otherwise stated.
Resources used in the Bombardier Commercial Aircraft Market Forecast:

AACO – Arab Air Carriers Organization
ASEAN – Association of Southeast Asian Nations
ATAG – Air Transport Action Group
CAAC – Civil Aviation Administration of China
CAPA Centre for Aviation
DOT – U.S. Department of Transportation
EIA – U.S. Energy Information Administration
ERA – European Regional Airline Association
Eurocontrol
IATA – International Air Transport Association
IATA Passenger Intelligence Services (PaxIS)
ICAO – International Civil Aviation Organization
IHS Global Insight
MAK – CIS Interstate Aviation Committee
OAG Aviation Solutions
OECD – Organization for Economic Co-operation and Development
RAA – Regional Airline Association
Rosaviatsiya – Russian Federal Agency for Air Transport