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JET STREAM

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Changing economics have led to a rebirth of turboprop operations at several airlines around the world.

■ By Michael Clarke | *Ascend* Contributor



Once considered a dying breed in the airline industry, the modern turboprop aircraft has experienced a robust resurgence in popularity, driven, in part, by the changing dynamics of the global airline landscape. Recent deregulation and liberalizations in developing countries, especially India, have resulted in a need for efficient regional aircraft to serve smaller airports with limited resources and semi-prepared and/or shorter runway surfaces.

The gradual increase in scope clause (limits on the size of aircraft flown by partner regional carriers) at most major U.S. domestic carriers has resulted in an increase in the size of regional jet aircraft deployment in their corresponding airline network. Over the years, the average seat capacity of turboprops has increased substantially, with the largest aircraft now providing 70-seat capacity. As a result, the economics of operating 50-seat regional jets is now being challenged by newer turboprops such as the Bombardier Q400 and the ATR72-500, which both have the ability to seat more than 70 passengers. Both aircraft are equipped with cabin noise and vibration suppression systems that offer a comparable interior passenger experience relative to regional jets and have cruise speeds that meet the performance of regional jets.



Photo courtesy of Air Deccan



Photo courtesy of Frontier Airlines

Carriers such as U.S.-based Frontier Airlines and India's Air Deccan are growing their fleets of turboprop aircraft. The airlines say the aircraft enable them to cost-effectively serve smaller markets.

During the late '90s, the low price of jet fuel in conjunction with the prevailing scope clauses (less than 50 seats) made the economics of 50-seat regional jets very attractive. Major U.S. domestic network carriers such as Continental Airlines and American Airlines promoted the full migration to jet aircraft based on the perceived passenger preference for these aircraft types. In the aftermath of Sept. 11, most network carriers significantly increased the use of regional jets primarily to protect their market share with adequate frequency

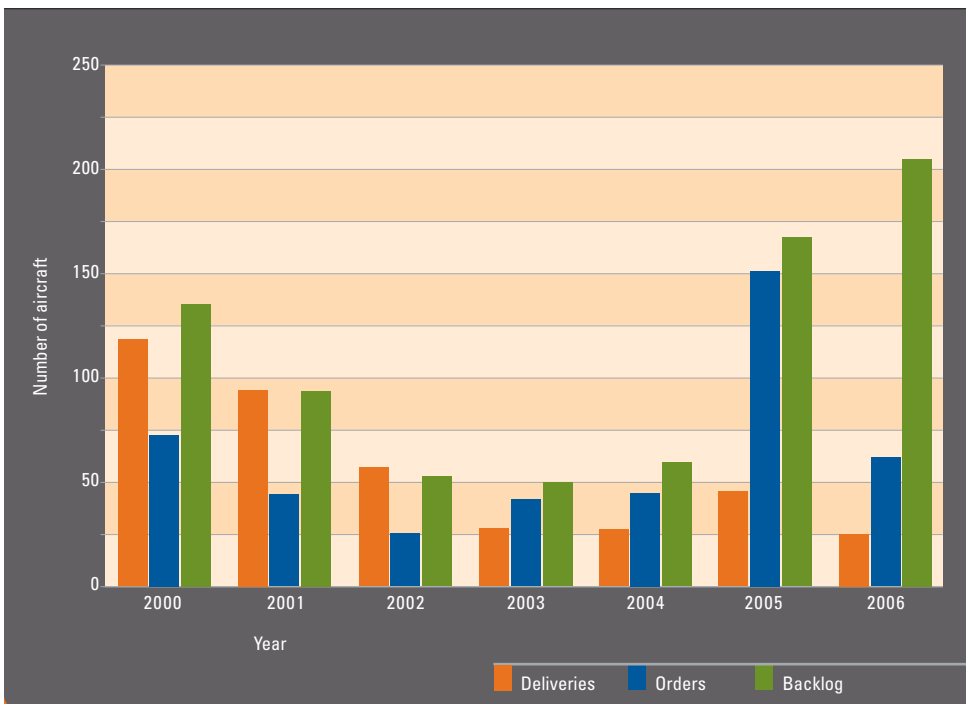
of service in important markets. At many hub airports, the percentage of regional jet operations exploded, as network airlines relied more on their regional partners to serve their short-haul and low-density markets in an effort to regain profitability while preserving service to most points in their established network. In addition, there was a drastic increase in the number of point-to-point markets served by regional jets, as airlines tried to maximize the utilization of their aircraft assets in the weaker demand climate.

The shift of flights to regional aircraft, and the poor economic environment, enabled network carriers to seek significant changes to their contractual labor agreements, especially with pilot unions. As a result of the reduced hourly crew rates, the cost per available seat miles for mainline narrow bodies became comparable to some regional jet operations. At the same time, there was a drastic increase in the price of jet fuel relative to the late '90s (more than 200 percent), which made operating costs higher for regional jet aircraft. The lack of pricing power across the U.S. domestic network resulted in reduced yields, and airlines were forced to reevaluate the value of the modern turboprop aircraft.

American Airlines decided to maintain a sizable ATR fleet to support its southern Florida and San Juan, Puerto Rico, operations and a fleet of Saab 340B for its southern California operations. Continental Airlines, which had gone exclusively with jet aircraft, has recently selected the Q400 aircraft for regional service from its hub at Newark Liberty International Airport.

Many niche carriers have always argued the economic value of turboprop operations that depend on market sizing and average flight stage lengths. Seattle, Washington-based Horizon Airlines was the launch customer for the Bombardier Q400 aircraft and now operates a fleet of 20 of the aircraft with scheduled segments up to 800 kilometers. In addition, its fleet consists of 28 Bombardier Q200 turboprops (37 seats) and 20 Bombardier CRJ-700 (70-seat) jet aircraft. Within the U.S.

Recent Trends in Turboprop Deliveries, Aircraft Orders and Backlogs



The last two years have seen a resurgence for turboprop aircraft orders and deliveries. With the changing dynamics of the industry — including revisions to scope clauses, the cost of fuel and the development of new markets — many airlines are finding turboprop aircraft offer an economical solution.

domestic system, low-cost carriers that traditionally operate only narrow-body aircraft such as the Boeing 737 and Airbus A320 families are now looking at regional aircraft. The underlying aircraft requirement of low-cost carriers is to have quick turn times and the ability to support high aircraft utilization. While some have opted for next-generation regional jet aircraft with seat capacity ranging from 70 to 100 seats, Denver, Colorado-based Frontier Airlines has placed an order for 10 Q400s and an option for 10 additional aircraft. In Europe, low-cost carrier flybe makes use of the Q400 turboprop as its core aircraft to offer low fares from its multiple bases in the United Kingdom to destinations across the continent. In India, Bangalore-based Air Deccan (the first low-cost carrier in the country) has an active fleet of 20 ATRs that are used to serve many secondary markets across the country.

The demand for turboprops across the globe has been driven by niche carriers deploying these aircraft in markets where economics are compelling and by network carriers that realize the importance of operating the right fleet types. Most of the new order activity in the turboprop market has been driven by sizable orders placed by India's Air Deccan and Kingfisher Airlines. The rapid growth of the domestic Indian airline industry will only drive more aircraft orders in the coming years. Turboprop aircraft coming off leasing arrangements are quickly redeployed to serve other airlines eager to introduce, or increase, regional operations at hub airports and other key (focus) stations within their networks. The current worldwide active fleet of Western turboprops (ranging in capacity from 19 to 70 seats) now stands at more than 2,000 units, with a backlog of in excess of 200 aircraft, representing 35 percent of the regional aircraft order books. The majority of these new aircraft orders were placed in the last two years, with ATR enjoying a commanding share of orders. Based on the 8 percent growth of the turboprop market in 2005, it is forecasted that it will continue to increase at 6 percent per year until 2009.

In an operating environment where fuel costs represent a significant portion (approximately 45 percent) of the total aircraft direct operating costs, the continued presence of higher fuel costs will result in an increasing demand for next-generation modern turboprop aircraft. **F**

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Photo courtesy of Bombardier

The Q400, manufactured by Canada's Bombardier, features state-of-the-art avionics and one of the most modern cockpits of any turboprop aircraft. It provides significantly lower fuel burns — particularly on short-haul flights — that give the aircraft one of the lowest operating costs per seat among regional aircraft.



Sabre Airline Solutions Archive



Photo courtesy of flybe

Europe's flybe, one of the region's largest low-cost carriers serving 56 destinations across the continent, is the world's largest operator of the Q400. In 2005, the airline ordered 20 additional Q400s, which will bring its total to 41 of the aircraft by 2009.



Photo courtesy of Widerøe

The Q400 is a vital component of the fleet for Widerøe, a regional carrier serving 41 destinations in Norway and northern Europe. The airline, an affiliate of SAS, serves 1.9 million passengers a year with a combination of 30 Dash 8 aircraft, including the 100 series, 300 series and Q400.