

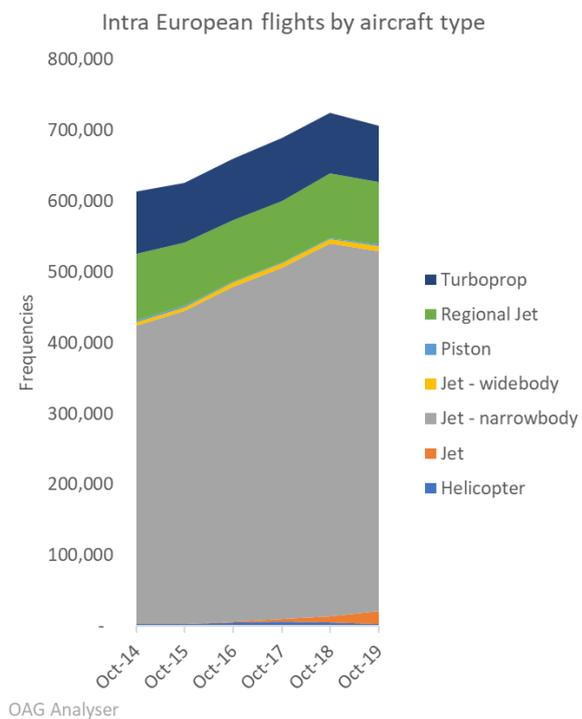


DOES EUROPE NEED MORE SMALLER AIRCRAFT?

Previous AviaDev papers have focussed on aspects of the market – capacity, traffic, unserved markets, connectivity. In this one we decided to look at the profile of aircraft operating within Europe.

In October 2019 there will be 706,818 intra-European flights operated, according to OAG schedule data. While that is 2.5% down on October 2018, the number of flights has grown by, on average, 2.9% each year over the last 5 years.

Two types of aircraft dominate: turboprops and narrow-body jets. No surprise there. By far the majority of flights are operated by jet aircraft and that proportion has been growing. Intra-European flights by narrow-body jets, as defined by OAG, have grown by 20.6% over the past 5 years, averaging annual growth of 3.8%. Add in Regional Jets, whose use has declined, as well as the newer jet aircraft such as the A220 (formerly the C-series) which fit somewhere between the traditional narrow-body jet and the regional jet, and the flights by these jets have grown by a healthy 3.6% per annum.



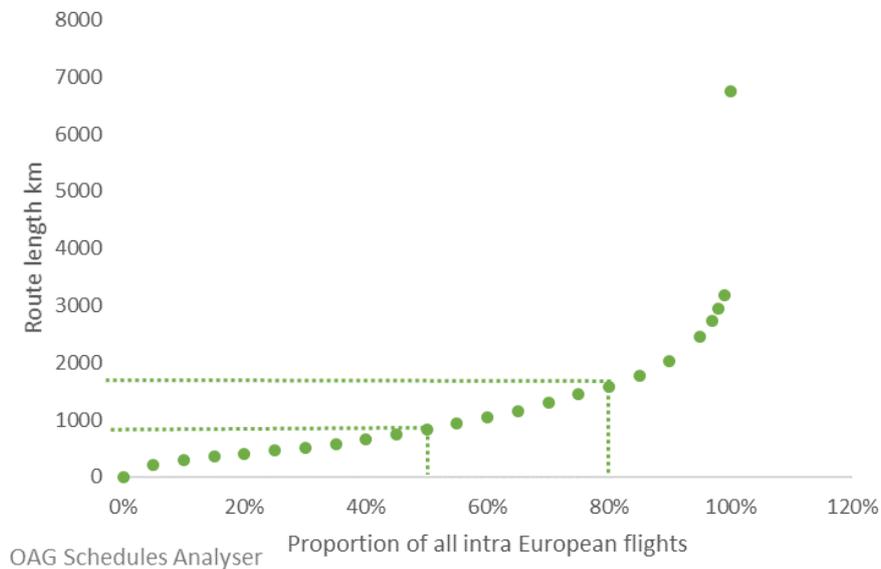
Two aircraft in particular dominate and continue to be the workhorses of the European fleets: The A320 and the B737-800. A320s make up a little over 18% of all flights while 24% are operated using B737-800 aircraft. While the range of these aircraft is 3,500km or more, the typical intra-European route is much shorter. 80% of all flights operated in October 2019 within Europe are on routes of less than 1,588km, and half are less than 830km. The number of routes requiring aircraft which actually fly the sort of maximum range that these popular aircraft are designed for is relatively low. There are only 46 routes operated within Europe which are over 4,000km and there were 736 flights on these in October. That is 0.1% of all flights.



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Profile of Intra European flights by distance

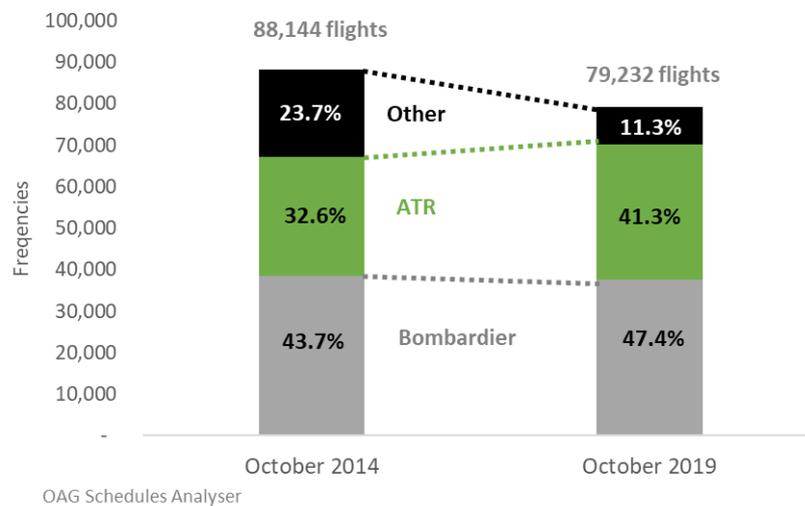


Given that the average flight operated within Europe is only around 1,020 km is there more scope these days to be using smaller aircraft designed for regional routes? The question is especially relevant when the environmental footprint and operating efficiency of aircraft operations is in the spotlight more than ever. In particular, to what extent is the turboprop being used in Europe today?

While jet aircraft get a lot of attention, the turboprop market has seen some significant changes in recent years. The number of flights operated with turboprops has declined while the overall market has grown. In October there were just short of 80,000 flights, compared to 88,000 five years earlier. That's a drop of 10%. However, the market has been heating up as the DHC-8 and ATR aircraft account for more of the turboprop market. The DHC-6/DHC-8 share of flights operated has grown from 43.7% to 47.4%, while ATR has managed to increase its share to 41.3% from 32.6% five years ago. Meanwhile, the other turboprop operators are being squeezed out and now only account for 11.3% of all intra-European flights.



Intra European turboprop flights by aircraft manufacturer



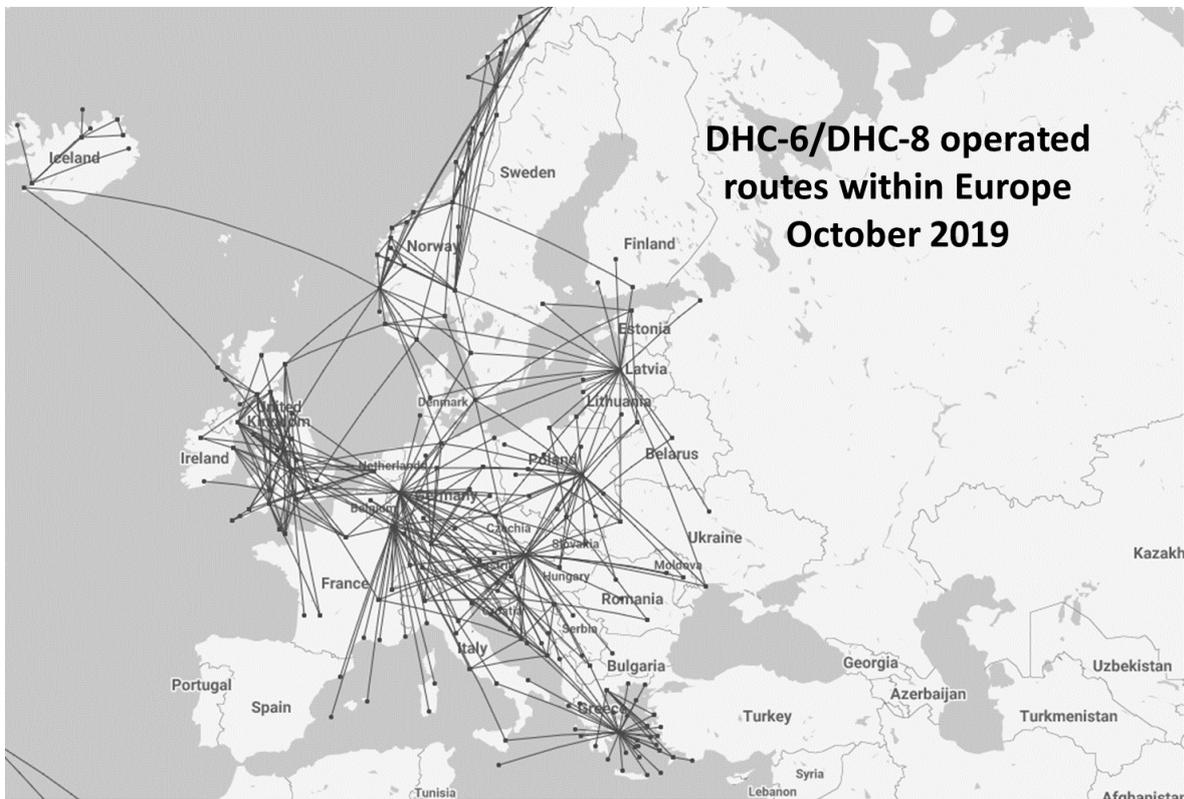
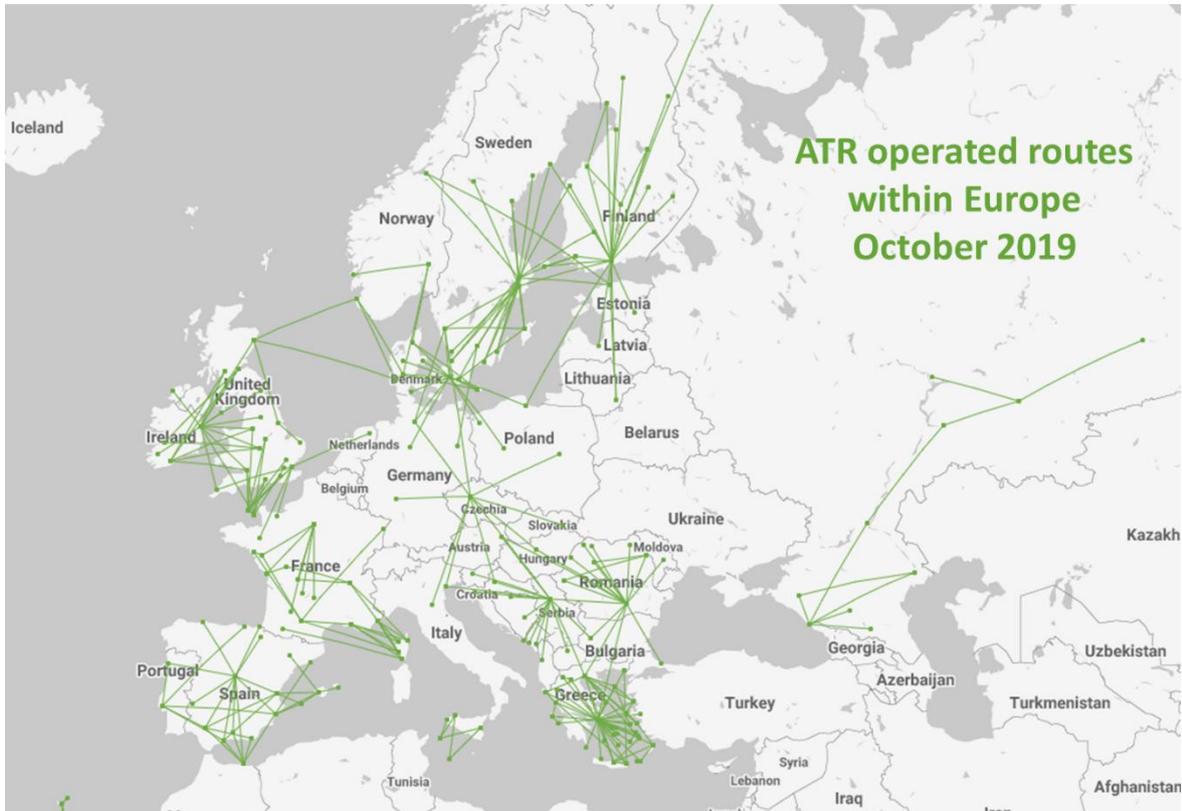
When we look at the two main turboprop suppliers, there are 447 routes using DHC-6 and DHC-8 equipment, and 301 using ATR aircraft this month. The average route is 437 km for the DHC-6/DHC-8 aircraft and 338 km for ATR.

There is a clear distinction between the overall use of each type of aircraft with ATR's frequently being used across water, connecting islands with a Mainland, while and more widely used in some markets than others. In contrast, the DHC-6/DHC-8 aircraft appear much more frequently used in Continental Europe and Scandinavia.



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Overall, turboprop's are somewhat underrepresented in Europe as compared to other parts of the world, accounting for 11% of all flights, compared to 12.5% globally.

Another aircraft making claims based on its operating performance is the A220, previously the CS-100 and CS-300 developed by Bombardier. It seems like it's still early days for this aircraft which Air Baltic and SWISS were launch customers for. Fewer than 1% of all intra-European flight are operated using the A220.



So, looking forward, are we seeing the right mix of aircraft types in use across Europe? And what might the prospects be for smaller aircraft such as the latest turboprops and the A220? The A220-300 operates with around 145 seats while the ATR 72 has closer to 70. Contrast this with 170-180 seat A320's and 185 seat B737-800's.

Arguably, a case can be made for lowering the average aircraft size. Many would suggest that there is over-supply today, one of the factors contributing to the spate of recent airline failures. There is a need to more closely match market demand to capacity rather than see short haul air services simply as feeders to hub activity and rely on ancillary revenues to plug the revenue gaps.

While airline profitability still runs alarmingly close to the wire for many airlines, could a shift to using slightly smaller aircraft with lower operating costs be the way forward?