

## Thoughts on the Commercial Aviation market in China

With a population of 1.3 billion, and a double-digit growth rate for flight trips over the past 30 years, China is predicted to surpass the U.S. in becoming the world's largest commercial aviation market by 2030. Marked by C919's maiden flight, COMAC is trying to establish an 'ABC' (Airbus, Boeing, COMAC) OEM structure. By introducing this single aisle passenger aircraft, COMAC aims to win a portion of market share especially in the fast-growing domestic market. During the last SpeedNews Conference in Toulouse, the Chinese market has been discussed extensively. To know and understand the dynamic of Chinese market is the key. We find some of the discussion on China could be interesting to our readers and customers, thus, here we share our thoughts on some of the issues:

### **WILL CHINA TAKE A STAKE IN BOMBARDIER?**

Although the final ruling is yet to come, Bombardier has seen a preliminary 219% tariff on its C-Series. If the final ruling follows, this is no doubt a heavy hit to this debt-laden company. By 2019 Bombardier will face several large debt maturities, with \$11bn of debt against \$5bn equity, the company will need to urgently climb their way out. Of course, another government bailout could be the solution. Some believe that this is unlikely to happen, because of taxpayer backlash and its competitor's aggression.

AVIC was the first Chinese company exploring taking a stake in Bombardier, but the discussion didn't make much progress. The apprehension came from the state-owned AVIC's deep tie to Chinese military. Early this year, a talk on COMAC acquiring Bombardier's stake has been put on the table. The two companies have been in a closed cooperation for years; they signed an agreement to find commonalities between C919 and C-Series to reduce training and maintenance costs. As a spin-out of AVIC, COMAC focuses only on civil aviation industry, however, AVIC's continued stake in COMAC may also be seen as an obstacle. Despite the concerns on China's perspective on IPR and other political issues, a COMAC stake in Bombardier should be a win-win deal. The C-series jet was designed for intra-

regional flight, targeting particularly China and Asia emerging markets. This deal would help Bombardier to get access to the fast-growing Chinese market, navigating through any non-tariff barriers that might impede the sales of foreign aircraft to China. On the other side, COMAC may be able to use Bombardier's technical expertise and know how on aircraft certification to speed up the process for C919.

## **DOES THE HIGH-SPEED RAIL (HSR) POSTS A THREAT TO THE DOMESTIC AIR TRANSPORT MARKET?**

In fact, we do reckon China's domestic airlines suffer from the impact caused by the State's investment in HSR. China's three major State-owned airlines, Air China, China Southern Airlines and China Eastern Airlines, all pointed out the impact from high-speed trains in their latest half-year reports, and only China Eastern achieved growth in net profits. In the past decade, some of the routes with less than 2hour flight duration are cancelled because of low attendance rate (excluding the routes to some mountainous locations). HSR is becoming the favourite way to travel domestically. According to the "long term railway network plan", the Chinese HSR network will cover 80% of China's domestic aviation market by 2025. Past experiences from Japan and Korea also suggests that HSR will have a negative impact on the domestic airlines. Additionally, in 2015, one third of all flights in China were delayed according to the IATA. Instead of being trapped at the airport waiting for delayed aircraft for 2-3 hours, passengers now are in favour of travelling with high speed rail, which normally has stations accessible in downtown. The distance which sees fierce competition between civil aviation and high-speed rail is from 400 to 800 km. High-speed rail occupancy rate could reach 50–90% if travel time of HSR was in 2–3 hours.

Not to mention that China has recently launched the 'flying train' project, which will travel four times faster than commercial aircrafts. Some suggest this will post threat to aviation industry long term wise. However, we reckon this Mach 3 'flying train' project is very ambitious. There is certainly a demand on supersonic transatlantic flight, but we doubt whether there is a market for Mach 3 HSR domestically.

## **CHINA IS BUILDING FOUR HEATHROW SIZED AIRPORT EVERY YEAR, WILL THIS EASE THE PRESSURE FROM THE FAST-GROWING AIR TRANSPORT DEMAND AND REDUCE DELAY RATE?**

The high delay rate in China is a good reminder that developing an aviation industry takes many decades. With the growing domestic demand, there will be more people travelling. To help ease the traffic pressure, the Chinese government is building four Heathrow-sized airport this year. Till 2025, Xinjiang will have planned to build 33 airports, becoming the province with most number of airports. However, we reckon the main cause of flight delay in China is that the airspace in China is largely (70%) controlled by the military, leaving little window for the domestic airlines. The bottleneck effect could become worse when military drills/trainings are taking place. Civil airliners may be required to reduce flight numbers by 25%. However, we have also seen that the Chinese government is starting to release more airspace for civil traffic use, making more room in the sky. In October 2015, the authorities opened a third of the country's low-altitude airspace (below 1,000m). In May 2016, China raised the upper limit of 'low-altitude' airspace to 3,000m. These moves will benefit mostly emergency services and helicopters. Although these changes do not affect or ease the pressure for civil airliners, they are signs that China is opening its sky gradually to support the growing air traffic market.

Another factor that we think could affect China's progress on reducing delay is China's air traffic control (ATC) system. An industrial expert pointed out that China's air traffic controller is facing embarrassment, overload working has become normal, but their pay is one fifth comparing with a pilot. Low pay plus high work load has made air traffic controller a less attractive job for graduates. China is facing talent retention difficulty in ATC.

## **WILL C919 DOMINATE CHINA'S SINGLE AISLE MARKET?**

So far, domestic airlines are the major buyers of the C919. We estimate that the major airlines among China's 55 domestic airliners will order at least 20 C919 each. We believe the state-owned airliners will back up C919, but it's also an industry where results matter: COMAC will eventually need to win the trust of airlines in China and elsewhere by proving the jet can operate efficiently and reliably on scheduled flights to maintain a healthy order book.

In general, certification test is another obstacle that new players are facing. As a matter of fact, COMAC faced severe problem certifying ARJ21. It took 12 years to finally have it certified in 2014. C919 still has long way to go, design changes may be required to meet safety standards of some countries. COMAC have learnt the certification process and set up a frame by certifying ARJ21, C919 may experience a speeded-up process.

As a summary, the large population in China is the market but also the challenge itself. OEMs and airlines may need to find a 'smart' way to target the dynamic Chinese market. To help airlines to reduce delay may be the priority.

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