

# Flash Analysis

Credit risk management

## Airplane manufacturer

### >>> Comac – Can this newcomer take on the Airbus-Boeing duopoly?

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In 2015, the Premier of China launched the "Made in China 2025" strategy, which identified the aviation industry as one of ten strategic growth industries to help elevate China from its position as the world's factory and turn it into a development nation. Approximately ten years ago, the state-owned Commercial Aircraft Corporation of China (Comac) presented the C919 narrowbody programme. The first three prototypes have already been launched. Also, a joint venture with the Russian United Aircraft Corporation (UAC) was set up to develop the larger CRAIC CRJ929 wide-body model, which is intended to fly the Peking-New York route. Technical problems with the Boeing 737 MAX and the fact that it has been grounded around the world are weakening Boeing's reputation on the market. Half of the duopoly - stable thus far - has now come under pressure, which improves Comac's chances for a successful entry into the market.

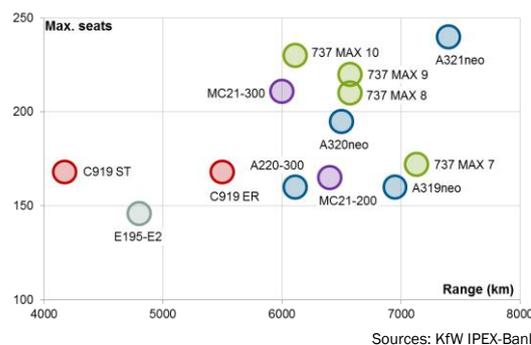
#### Review and current stage of development

Comac began construction of the first C919 prototype in 2011, three years after the programme was initiated. The prototype successfully completed its first test flight in May 2017, albeit three years later than planned. Series production of the model is scheduled to commence in 2021. The Chinese authorities are currently holding negotiations with regulating bodies from Europe and the US to recognise the airworthiness of the C919 in order to permit its future use and sale outside of China.

#### Market potential for the next 20 years

According to Airbus and Boeing, approximately 40,000 new airplanes – of which 76% are narrowbodies – are to be delivered worldwide by 2037. With around 5,700 units delivered by 2037, the Chinese market is set to gain in importance in the narrowbody segment and become the largest domestic aircraft market in the world. Currently, the narrowbody market is almost completely serviced by Boeing and Airbus. According to the Chinese government's "Made in China 2025" plan, airplanes produced in China should make up more than 10% of the national market by 2025. Based on the strategic importance of the aviation industry, we expect the Chinese government to provide extensive funding to help Comac penetrate the growing national narrowbody market.

#### Comparison of current narrowbody models



In a comparison of seating capacity, the C919 finds itself in the same range as the largest Embraer plane (E195-E2) and the C-Series A220-300 adapted by Airbus. However, Comac perceives the C919 as competition to the 737 MAX 8 and A320neo, even though Comac is outdone by the competitors in terms of range. However, the C919 is still capable of connecting

all major cities in China (total distance north to south: 4,500 km; east to west: 4,200 km). The comparatively limited range of the C919 is a clear indication of Comac's focus on China as its primary target market.

#### Market entry hurdles

Due to reasons of efficiency and cost reduction, there is a prevailing trend in the airline

sector towards homogenous airplane fleets. Furthermore, the availability of global service networks for airplane maintenance and repair is a major factor for airlines. The high level of complexity in the development of airplanes coupled with lengthy approval processes often result in delays to market introduction. Comac's C919 is already three years behind schedule. The aircraft manufacturer also spent more than eight years dealing with numerous problems and delays in the development of the smaller ARJ21 regional jet.

**State influence on Comac orders**

According to recent press releases, Comac's order book currently contains over 800 orders for the C919 model. However, these order figures are hardly comparable to narrowbody orders from Airbus (approx. 6,400 for the A220/320) or Boeing (approx. 5,000 for the 737 MAX). The influence of the Chinese state is obvious as almost all C919 orders were placed by state-owned airlines and leasing companies (although one of the 28 ordering parties is US leasing company GE Capital Aviation Services).

**Production rates**

In 2018, the production rate for the Boeing 737 stood at 52 units per month. Airbus plans to increase the production rate of the A320 family to 63 units per month by 2021. In the coming decade, Comac will not be in a position to produce more than a few C919 per month.

**Key element: Western technology**

**Selected suppliers for the Comac C919 airplane**

Aluminium shell for the hull	Arconic (USA)
Communication and navigation system	Rockwell Collins (USA)
Flight data recorder	GE (USA)
Wheels/brakes	Honeywell (USA)
Landing gear system	Liebherr Aerospace (D)
Engine	CFM International (GE/Safran partnership)

Sources: KFW IPEX-Bank

Due to a lack of know-how, Comac currently relies heavily on Western technology: the most important components of the C919 are sourced in the US and Europe. Also, many components from US manufacturers are produced by subsidiaries in Europe. Currently the

exact percentage of C919 components sourced from Europe cannot be determined. China's aim within the scope of "Made in China 2025" is to establish the Aero Engine Corporation of China (AECC) as one of the leading global engine manufacturers. However, experts predict a lengthy start-up phase.

**Conclusion**

With the successful test flights of the C919, Comac has overcome the first big hurdle in taking on the Airbus-Boeing duopoly. Boeing's current problems (grounding of the Boeing 737 MAX) could make it easier for Comac to find its footing on the Chinese market. We also expect that the Chinese government – based on the strategic importance of Comac – will exert pressure on the domestic market to fill Comac's order book with orders from within China for the medium term.

However, for the global market in particular, market entry hurdles such as homogenous fleets, service networks, regulatory systems and reliability of planning should not be underestimated. Comac appears to be working intensely on multiple fronts, including development and training centres. At present, it is hard to determine when China will possess sufficient technical know-how to develop and manufacture state-of-the-art components on its own. In addition, the political framework conditions (trade dispute between China and the US, Russia sanctions - JV for CRAIC C929 development) could have an effect on Comac's international prospect of success. While Comac is already in a position to challenge the duopoly on the Chinese market in the medium term, there is still time for Airbus and Boeing to prepare themselves for a competitor in the global market in the long run.