

## China’s Civil Aviation Industry

September 2007

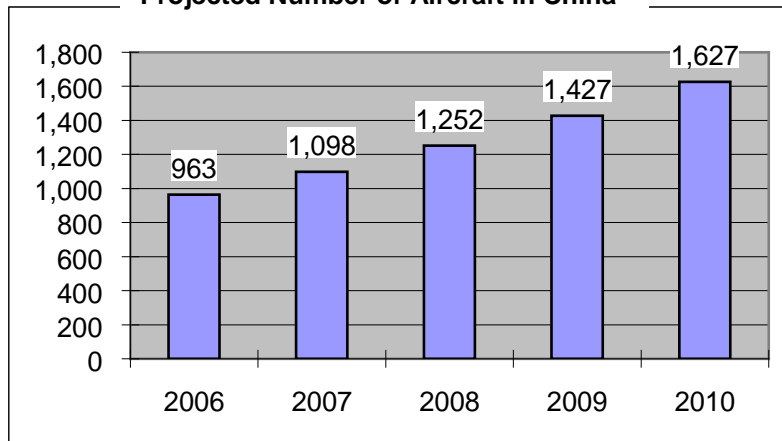
In 1980, just at the beginning of her great “opening up” to the outside world, China’s civil aviation industry comprised only about 140 airplanes and ranked 35<sup>th</sup> in the world in tons-per-kilometer. With average annual growth of some 17% since then, China has jumped all the way to the number 2 spot, second only to the United States.

Today China may present the greatest civil aviation market opportunity in history. In 2006, CAAC (Civil Aviation Administration of China) transported 160 million passengers. In the first half of this year, growth was 19.6% over the same period last year, and cargo traffic grew over 15%. By 2010, the number of airplanes is expected to nearly double over the 2006 level – just 5 years - as shown here.

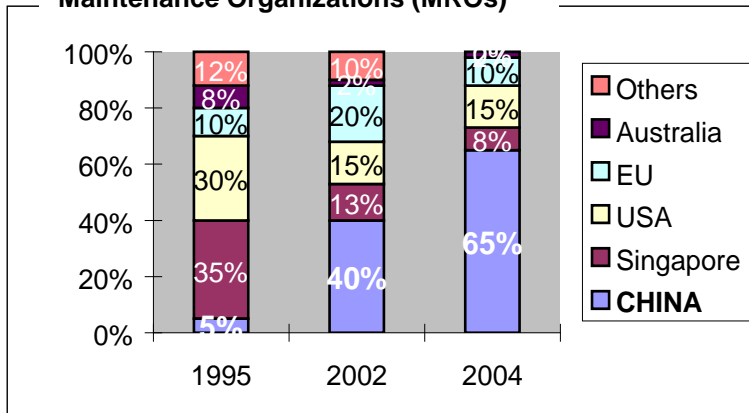
Further, China expects to see a total of between 2,300 to 3,000 total civil aircraft in operation by 2025. This, in turn, means

airport expansions, new airports, growing maintenance centers, more skilled workers, and so on.

**Projected Number of Aircraft in China**



**Relative Growth of Civil Aircraft Maintenance Organizations (MROs)**

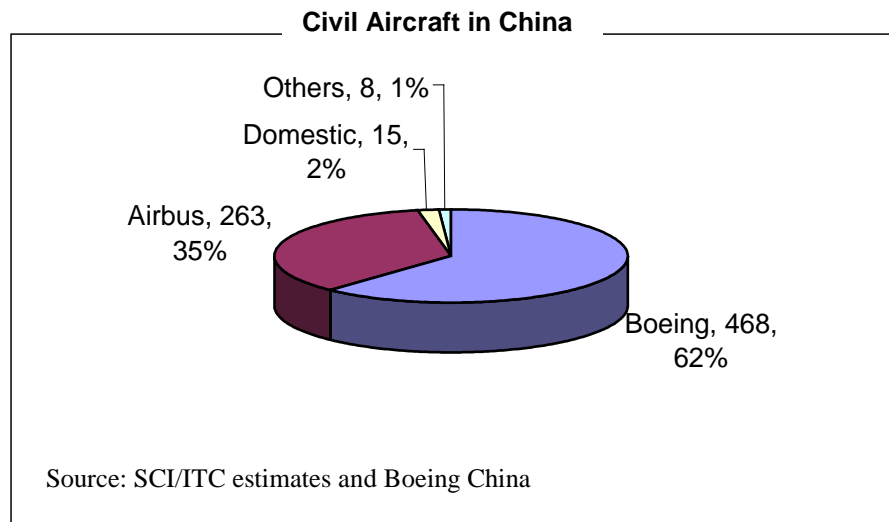


Just between now and 2010, China will train some 6,500 new pilots. China’s airports are overtaxed – she has only 500, compared with about 20,000 in the US, and 2,500 in Brazil, for example. And aircraft maintenance and refurbishment has been moving to China fast, as can be seen here.

Source: SCI/ITC Estimates

But the aircraft industry is just about as high tech as you can get, with every aspect subject to strict specifications, quality controls and regulatory scrutiny. For these reasons China is technically still well behind the West, even though progress is fast. Boeing and Airbus dominate, with Boeing controlling nearly two-thirds of the aircraft market.

In an attempt to pick up market share, Airbus recently began construction in Tianjin of a complete assembly plant for its A320, with an estimated total investment of over a billion dollars. The project is a joint venture between Airbus and a company formed by China’s two big aviation



companies – AVIC 1 and AVIC 2. Airbus will hold a 51 percent majority stake in the JV, although the final joint venture contract has not yet been signed. The intent is to begin production in 2009 and manufacture a total of 300 planes by 2016 – all to be purchased by China. Airbus’s decision has already attracted nearly a dozen other aircraft companies to locate nearby.

Meanwhile, China’s domestic manufacturing capability is growing rapidly and is backed by the government. For years, Boeing has sourced parts and components from Chinese manufacturers. Most recently, Boeing signed supply contracts worth over \$500 million for 747-8 inboard wing flaps, ailerons, spoilers, composite panels for the vertical fin, etc. Altogether, Boeing and Boeing suppliers hold contracts for some \$2.5 billion with China's aviation industry manufacturers.

Airbus isn’t far behind. For example, Airbus' only wing box manufacturer outside Europe is Xian Aircraft Company. The wing box is considered one of the toughest structural parts of an aircraft and is valued at \$1.75 million per set – Airbus has ordered 250 sets. Overall, Airbus has said it plans to double its current subcontract volume in China to \$120 million by 2010.

All this has helped China to develop its own indigenous aircraft industry. In fact, China recently announced completion of the ARJ-21 - China's first airplane made entirely with Chinese technology. This aircraft is scheduled to come off the production line by the end of 2007 and start test flights in March 2008. Moreover, China's 11th five-year development plan includes a project

for “large” (i.e. two aisle) aircraft manufacturing, a project that was abandoned by China in the 80s and is now restarting. It is seen as a strategic industrial initiative with significance in politics, economics, national defense and technology, since, at present, only the US, the EU, and Russia have developed their own large airplanes, and only Boeing and Airbus are competitive internationally.

In addition, AVIC II (China Aviation Industry Co. No. 2) just announced that it will invest more than three billion yuan (about US\$384 million US) to develop and produce civilian helicopters and aims to become one of the world's leading helicopter suppliers in the next 12 years. The development plan includes technical cooperation with the Eurocopter Group, Augusta Westland and Hewlett-Packard Canada, but AVIC II will control the final design.

Companies interested in exploring this burgeoning market should know that the central government officially approved the Tianjin Aerospace Industrial Park as the *only* state-level industrial park for civil aviation in China. And it is here that Airbus decided to locate its new A320 final assembly line (FAL) after it evaluated sites in Shanghai, Xi’an and Zhuhai in addition to Tianjin. Boeing, too, has manufacturing operations in Tianjin. While Shanghai and Xian are also major aviation industrial bases, it is likely that Tianjin will become China’s major civil aviation industrial base.

### ***About SCI***

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If you are interested in China’s civil aviation market, from market study to sales and sourcing, SCI can help you formulate the best strategy and then help you to implement the strategy properly. For more information about SCI’s scope of business and our value-added services please call Dr. Timothy Weckesser, president of SCI, at (610) 828-8060, or Shiqiang Gu, Vice president and C.O.O., at (610) 828-8061.