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ASIAN BUSINESS NEWS

## China's Jetliner Dream Is Still on the Tarmac

China hopes to take on foreign rivals with its C919, which is years behind schedule



The first C919 passenger jet made by the Commercial Aircraft Corp of China at a factory in Shanghai in 2015. PHOTO: REUTERS

By **TREFOR MOSS**

Jan. 30, 2017 4:33 a.m. ET

SHANGHAI—A Chinese prototype jetliner is set to make its maiden flight early this year, in what the country hopes to be a big step toward realizing its ambition to rival Boeing Co. and Airbus SE in commercial aviation's big leagues.

But as an example of China's aviation prowess, the C919 is an imperfect candidate: a look under its hood underscores the fundamental role played by U.S. and European firms in helping China realize its airplane dream.

It bristles with technology from elsewhere, such as General Electric Co., Honeywell International Inc. and other U.S. suppliers. The C919's engines are built by CFM, a joint venture of the U.S.'s GE and France's Safran SA. Honeywell, Rockwell Collins Inc. and other American aerospace majors supplied many of its critical systems—everything from radars to flight controls to the plane's lights and landing gear.

While it isn't China's first passenger jet, the flight of the C919 will be a landmark moment in China's decades-old dream of making a large homegrown jetliner in the single-aisle class, the mainstay of short-haul air travel.

Developed by the state-owned Commercial Aircraft Corp. of China, or Comac, the 158-seat plane is years behind schedule, but began ground trials in Shanghai last month ahead of flight tests expected by the end of March.

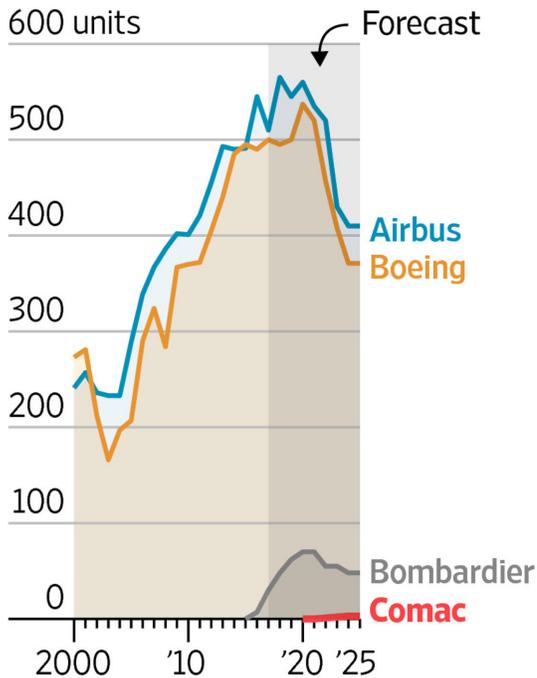
China's stated strategic goal is to free itself from its costly dependency on foreign jetliners built by Boeing and Airbus. Foreign analysts differ over whether that goal is realistic. Most agree, however, that the C919—though a big advance on the smaller jets China has built before—won't be the aircraft that breaks the foreign stranglehold.

"It's 15 years behind," said Derek Levine, the author of "The Dragon Takes Flight," a study of China's aerospace sector—"an antiquated plane that can't compete with Airbus and Boeing."

## Plane Dealing

New entrants like China's Comac will struggle to break the dominance of Airbus and Boeing.

### Global deliveries of single-aisle passenger jets



Source: Teal Group

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The endeavor arguably owes more to nationalism than commercial intent. “Without the ability to build aircraft like the C919, it will be hard for China to establish its image as a great country,” said Zhou Jisheng, a retired engineer who designed Comac’s ARJ21, a twin-engine regional jet seating up to 105 passengers that last year became the first Chinese jet to enter commercial service.

Comac has spent an estimated \$8.6 billion developing the C919, and is unlikely to recoup its investment, according to industry analysts. It declined to comment.

Comac has previously said it would build 2,300 jets over the next two decades. Aviation experts say there won’t be nearly that much demand, and estimate production will more likely be a few hundred for state-owned Chinese airlines.

Teal Group Corp., a U.S. aviation intelligence company, forecasts that Comac will only have delivered 66 C919s by 2036—fewer even than other new entrants such as Canada’s Bombardier Inc.

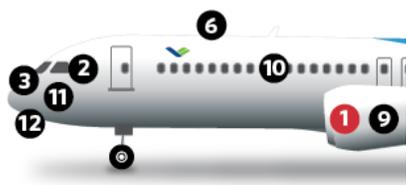
The global single-aisle market is shared more or less evenly by Boeing’s 737 and Airbus’s A320 families. These jets typically carry 130-200 passengers on flights of one to four hours.

Chinese airlines and lessors have bought about 2,000 of these jets, and will likely buy thousands more, with Boeing forecasting that by 2035 China will spend \$1 trillion on

**Made in China (and America)**



Many parts of China's new C919 jet are produced by U.S. companies working with Chinese joint-venture partners.



**CFM (Joint venture of General Electric, Fran**  
1. Engine

new airliners, including over 5,000 single-aisle planes, to satisfy its burgeoning demand for air travel.

With a fifth of Boeing's future sales set to come from China, President Donald Trump's threat to slap hefty tariffs on Chinese imports represents potentially serious turbulence for the U.S.'s largest exporter, which claims China sales directly support 100,000 American jobs.

China's possible response to such tariffs, state media has said, would be to tear up orders for Boeing planes—though that, in turn, could have an impact on jobs in China. Factories there are critical links in Boeing's global supply chain, feeding the company's final-assembly plants in Washington state with sections of the 737 and of the new 787 Dreamliner.

As Beijing requires, foreign participants have worked on the C919 in conjunction with Chinese joint-venture partners.

Even if considered a potential rival to Boeing, the C919 is for dozens of other American companies a welcome inroad into the Chinese market, said Geoffrey Jackson, executive-director of the U.S.-China Aviation Cooperation Program, a Beijing-based body created by the U.S. government and aerospace companies.

The aircraft symbolizes the interdependency of the U.S. and Chinese aerospace industries at a time when U.S.-China trade is in the spotlight, analysts say.

While such collaboration inevitably teaches China about the technology brought by the foreign partner, American companies protect future sales by providing systems that are less than cutting-edge, said Richard Aboulafia, vice president of Teal Group. They gamble that they can innovate faster than their Chinese partners are able to close the gap.

The C919 won't be in the hands of its first customer, state-owned China Eastern Airlines, for several more years—and faces a battle for orders against better known rivals.

Mr. Zhou, the Chinese engineer, asserted that the capability gap between Comac and Boeing is smaller than many people realize. But "the gap in reputation," he said, "is huge."

—Junya Qian contributed to this article.

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**Corrections & Amplifications**

The Commercial Aircraft Corp. of China is also known as Comac. An earlier version of this article incorrectly referred to the company as the China Aircraft Corp. of China. (Jan. 30, 2017)

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