Review

Boeing's Autonomous Military Aircraft

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Abstract: Boeing will build a self-propelled military aircraft to accompany US combat aircraft during missions. Boeing's autonomous airplane will achieve superior flying performance to those pilots even with the most modern aircraft. If technology advances and becomes more accessible to civilians, why would not this happen in the military domain? US, Russian, Australian and British armies have already been using advanced technology for decades were civilians just dream, these technologies being totally secret and forbidden to the general public and mass media. Boeing, which manufactures commercial and military aircraft, wants to revolutionize the "art of war" and introduce a state-of-the-art, self-propelled aircraft into the battlefield to adapt to a variety of complex military missions. They called it the Boeing Airpower Teaming System because it will team up well with military pilots during reconnaissance missions or even hostility or defensive missions. This autonomous airplane will play the role of additional help designed to significantly reduce the risks to which soldiers are often exposed. The stand-alone aircraft can be sent both on reconnaissance missions and for attack operations (either for defense or for the removal of targets considered terrorist). He will be able to intercept the enemy in good time and to annihilate it. It will be manufactured in Australia and it will have a length of more than 11 meters and Boeing promises autonomy of over 3,700 kilometers (2,000 nautical miles). Obviously, the company will not only produce for Americans or Australians. Any government will be able to purchase the autonomous airplane if it allows it (at least theoretically, because sales of such products are basically also with special political agreements). It is very likely that in the future, we will not even have much need for soldiers if the missions are carried out by autonomous airplanes or robots. Good news, as democracies have come to pay citizens to motivate them to become soldiers.

Keywords: Boeing, Boeing's Autonomous Airplane, Boeing Airpower Teaming System, British Airways, Americans or Australians Airways, 3,700 Kilometers Autonomy

Introduction

Boeing is a US civil and military aircraft manufacturer based in Chicago, USA. Boeing is Pentagon's second largest provider of aerospace and technological equipment after Lockheed Martin. The company is present in 70 countries around the world.

The company is organized into two main divisions:

- Boeing Commercial Airplanes
- Boeing Integrated Defense Systems

In June 2008, there were 12,000 commercial airplanes made by Boeing, accounting for about 75% of the entire commercial fleet in the world.

Civil Aircraft:

- Boeing 247
- Boeing 367-80
- Boeing 707
- Boeing 717
- Boeing 727
- Boeing 737
- Boeing 747
- Boeing 757
- Boeing 767
- Boeing 777
- Boeing 787

Combat planes:

- McDonnell Douglas F/A-18 Hornet
- Boeing F/A-18E/F Super Hornet
- Boeing EA-18G Growler
- F-15 Eagle
- F-15 Strike Eagle

Bombers:

- B-1 Lancer
- B-2 Spirit
- B-17 Flying Fortress
- B-29 Superfortress
- B-47 Stratojet
- B-52 Stratofortress

Tank airplanes:

- KC-135 Stratotanker
- KC-97 Stratotanker
- Strategic transport planes
- C-17 Globemaster III

Special Aircraft:

- Boeing E-3 SENTRY AWACS
- Boeing E-4B NAOC
- Boeing E-6 MERCURY
- Boeing E-8C JSTARS

Attack helicopters:

- Boeing AH-64 Apache
- Boeing RAH-66 Comanche

Transport helicopters:

- CH-47 Chinook
- H-21 Shawnee
- CH-46 Sea Knight

Experimental Aircraft:

- Boeing X-36
- Boeing X-32 JSF
- Boeing X-45
- Boeing XB-15
- Boeing X-43
- Boeing X-48

Supersonic passenger airplanes:

- Boeing 2707

In March 1910, William E. Boeing bought Heath Shipyard in Seattle on the Duwamish River, which later became his first aircraft factory. Boeing was incorporated into Seattle by William Boeing on July 15, 1916, as "Pacific Aero Products Co.". Boeing was later embedded in Delaware; the original certificate of the establishment was deposited with Delaware State Secretary on July 19, 1934. Boeing, who studied at Yale University, originally worked in the wood industry, where he became rich and learned about wooden structures. This knowledge proved to be invaluable in the design and subsequent assembly of planes. The company stayed in Seattle to take advantage of the local offer of spruce wood.

One of the two B&W floods built by George Conrad Westervelt, an American engineer, flew on June 15, 1916. Boeing and Westervelt decided to build the B&W hydrogen after they flew with Curtiss. Boeing bought a Glenn Martin "Flying Birdcage" (named by everyone who held it together) and was taught to fly by Glenn Martin himself. Boeing crashed into Birdcage soon and when Martin informed Boeing that spare parts would not be available for months, Boeing realized he could build the plane at that time. He and Cdr's friend. G.C. Westervelt agreed to build a better aircraft and soon produced the B&W seaplane. The first Boeing was gathered in a hangar near the lake, located on the northeast shore of Lake Seattle. Many of Boeing's early planes were seaplanes.

On April 6, 1917, the US declared war on Germany and entered the First World War. On May 9, 1917, the company became the company "Boeing Airplane Company". During the war, Boeing knew that the American ship needed training aids. So, Boeing sent two new Cs models to Pensacola, Florida, where the planes were fired for the Navy. Marina liked Model C and ordered another 50 people. The company moved its operations to an old building, known as Boeing Plant 1, located on the Lower Duwamish River, Washington.

At the end of the First World War of 1918, a large surplus of cheap and used military aircraft flooded the commercial airplane market, preventing airlines from selling any new aircraft, which led many of them. Others, including Boeing, began selling other products. Boeing built locker rooms, counters and furniture along with flat-bottomed boats called Sea Sleds.

In 1919, Boeing B-1 made the first flight (Hosted a pilot and two passengers and several emails). Within eight years, he made international flights by plane from Seattle to Victoria, British Columbia. On May 24, 1920, Boeing 8 made his first flight. It was the first plane flying over Mount Rainier.

In 1923, Boeing competed against Curtiss to develop a fighter for the US Army Air Service. Although Curtiss completed his project and received the contract, Boeing continued to develop his PW-9 fighter. The plane, along with the Boeing P-12/F4B fighter, made Boeing an important aircraft manufacturer over the next decade.

In 1925, Boeing built his 40 e-mail model for the US government. to use on flight routes. In 1927, an improved version of this 40A aircraft was built that won the US mail order to deliver mail between San Francisco and Chicago. The 40A also had a passenger cabin that housed two.

In the same year, Boeing created an airline called Boeing Air Transport, which merged a year later with Pacific Air Transport and Boeing Airline. The first flight to the airline was on July 1, 1927. In 1929, the company merged with Pratt and Whitney, the production company Hamilton Aero Manufacturing and Chance Vought, under the new United Aircraft and Transport Corporation. The merger was followed by the acquisition of Sikorsky Manufacturing Corporation, Stearman Aircraft Corporation and Standard Metal Propeller Company. United Aircraft then acquired the national air transport in 1930.

On July 27, 1928, the 12-passenger Boeing 80 biplane made its first flight. With three engines, Boeing's first aircraft was built with the sole intention of being a passenger transport. A modernized version, 80A, carrying eighteen passengers, made the first flight in September 1929 (Rulkov *et al*., 2016; Agarwala, 2016; Babayemi, 2016; Gusti and Semin, 2016; Mohamed *et al*., 2016; Wessels and Raad, 2016; Rajput *et al*., 2016; Rea and Ottaviano, 2016; Zurfi and Zhang, 2016a; 2016b; Zheng and Li, 2016; Buonomano *et al*., 2016a; 2016b; Faizal *et al*., 2016; Ascione *et al*., 2016; Elmeddahi *et al*., 2016; Calise *et al*., 2016; Morse *et al*., 2016; Abouobaida, 2016; Rohit and Dixit, 2016; Kazakov *et al*., 2016; Alwetaishi, 2016; Riccio *et al*., 2016a; 2016b; Iqbal, 2016; Hasan and El-Naas, 2016; Al-Hasan and Al-Ghamdi, 2016; Jiang *et al*., 2016; Sepúlveda, 2016; Martins *et al*., 2016; Pisello *et al*., 2016; Jarahi, 2016; Mondal *et al*., 2016; Mansour, 2016; Al Qadi *et al*., 2016b; Campo *et al*., 2016; Samantaray *et al*., 2016; Malomar *et al*., 2016; Rich and Badar, 2016; Hirun, 2016; Bucinell, 2016; Nabilou, 2016b; Barone *et al*., 2016; Chisari and Bedon, 2016; Bedon and Louter, 2016; dos Santos and Bedon, 2016; Minghini *et al*., 2016; Bedon, 2016; Jafari *et al*., 2016; Chiozzi *et al*., 2016; Orlando and Benvenuti, 2016; Wang and Yagi, 2016; Obaiys *et al*., 2016; Ahmed *et al*., 2016; Jauhari *et al*., 2016; Syahrullah and Sinaga, 2016; Shanmugam, 2016; Jaber and Bicker, 2016; Wang *et al*., 2016; Moubarek and Gharsallah, 2016; Amani, 2016; Shruti, 2016; Pérez-de León *et al*., 2016; Mohseni and Tsavdaridis, 2016; Abu-Lebdeh *et al*., 2016; Serebrennikov *et al*., 2016; Budak *et al*., 2016; Augustine *et al*., 2016; Jarahi and Seifilaleh, 2016; Nabilou, 2016a; You *et al*., 2016; AL Qadi *et al*., 2016a; Rama *et al*., 2016; Sallami *et al*., 2016; Huang *et al*., 2016; Ali *et al*., 2016; Kamble and Kumar, 2016; Saikia and Karak, 2016; Zeferino *et al*., 2016; Pravettoni *et al*., 2016; Bedon and Amadio, 2016; Chen and Xu, 2016; Mavukkandy *et al*., 2016; Yeargin *et al*., 2016; Madani and Dababneh, 2016;

Alhasanat *et al*., 2016; Elliott *et al*., 2016; Suarez *et al*., 2016; Kuli *et al*., 2016; Waters *et al*., 2016; Montgomery *et al*., 2016; Lamarre *et al*., 2016; Petrescu, 2012b; Aversa *et al*., 2017a; 2007b; 2016a; 2016b; 2016c; 2016d; 2016e; 2016f; 2016g; 2016h; 2016i; 2016j; 2016k; 2016l; 2016m; 2016n; 2016o; Petrescu and Petrescu, 2016; 2015a; 2015b; 2015c; 2015d; 2015e; 2014a; 2014b; 2014c; 2014d; 2014e; 2014f; 2014g; 2014h; 2014i; 2013a; 2013b; 2013c; 2013d; 2013e; 2013f; 2013g; 2012; 2011; 2005a; 2005b; 2005c; 2005d; 2003; 2002a; 2002b; 2000a; 2000b; 1997a; 1997b; 1997c; 1995a; 1995b; Petrescu, 2018; 2015a; 2015b; 2012; Petrescu *et al*., 2016; 2017a; 2017b; 2017c; 2017d; 2018a; 2018b; 2018c; 2018d; Petrescu and Calautit, 2016a; 2016b; Daud *et al*., 2008; Taher *et al*., 2008; Zulkifli *et al*., 2008; Pourmahmoud, 2008; Pannirselvam *et al*., 2008; Ng *et al*., 2008; El-Tous, 2008; Akhesmeh *et al*., 2008; Nachiengtai *et al*., 2008; Moezi *et al*., 2008; Boucetta, 2008; Darabi *et al*., 2008; Semin and Bakar, 2008; Al-Abbas, 2009; Abdullah *et al*., 2009; Abu-Ein, 2009; Opafunso *et al*., 2009; Semin *et al*., 2009a; 2009b; 2009c; Zulkifli *et al*., 2009; Ab-Rahman *et al*., 2009; Abdullah and Halim, 2009; Zotos and Costopoulos, 2009; Feraga *et al*., 2009; Bakar *et al*., 2009; Cardu *et al*., 2009; Bolonkin, 2009a; 2009b; Nandhakumar *et al*., 2009; Odeh *et al*., 2009; Lubis *et al*., 2009; Fathallah and Bakar, 2009; Marghany and Hashim, 2009; Kwon *et al*., 2010; Aly and Abuelnasr, 2010; Farahani *et al*., 2010; Ahmed *et al*., 2010; Kunanoppadon, 2010; Helmy and El-Taweel, 2010; Qutbodin, 2010; Pattanasethanon, 2010; Fen *et al*., 2011; Thongwan *et al*., 2011; Theansuwan and Triratanasirichai, 2011; Al Smadi, 2011; Tourab *et al*., 2011; Raptis *et al*., 2011; Momani *et al*., 2011; Ismail *et al*., 2011; Anizan *et al*., 2011; Tsolakis and Raptis, 2011; Abdullah *et al*., 2011; Kechiche *et al*., 2011; Ho *et al*., 2011; Rajbhandari *et al*., 2011; Aleksic and Lovric, 2011; Kaewnai and Wongwises, 2011; Idarwazeh, 2011; Ebrahim *et al*., 2012; Abdelkrim *et al*., 2012; Mohan *et al*., 2012; Abam *et al*., 2012; Hassan *et al*., 2012; Jalil and Sampe, 2013; Jaoude and El-Tawil, 2013; Ali and Shumaker, 2013; Zhao, 2013; El-Labban *et al*., 2013; Djalel *et al*., 2013; Nahas and Kozaitis, 2014).

Materials and Methods

Boeing will build a self-propelled military aircraft to accompany US combat aircraft during missions. Boeing's autonomous airplane will achieve superior flying performance to those pilots even with the most modern aircraft.

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Fig. 1: Boeing airpower teaming system

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They called it the Boeing Airpower Teaming System because it will team up well with military pilots during reconnaissance missions or even hostility or defensive missions (Fig. 1 and 2).

This autonomous airplane will play the role of additional help designed to significantly reduce the risks to which soldiers are often exposed.

The stand-alone aircraft can be sent both on reconnaissance missions and for attack operations (either for defense or for the removal of targets considered terrorist). He will be able to intercept the enemy in good time and to annihilate it.

It will be manufactured in Australia, it will have a length of more than 11 m and Boeing promises autonomy of over 3,700 kilometers (2,000 nautical miles).

Obviously, the company will not only produce for Americans or Australians. Any government will be able to purchase the autonomous airplane if it allows it (at least theoretically, because sales of such products are basically also with special political agreements).

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Results

The Rockwell B-1 Lancer is a supersonic four-engine, variable geometry, a strategically used bomber by US Air Force (USAF). Following a competition, in 1970, the North American Rockwell B-1A was selected for the USAF program of a Mach 2 supersonic bomber with a range and payload to replace the Boeing B-52 Stratofortress and XB-70 (which was abandoned). It was later developed as B-1B, first of all, a low-level, long-range penetrator and Mach 1.25 speed (high altitude speed capacity), the reduced speed is due to the modification of the engine air intakes to reduce the radar signature (Fig. 3).

Fig. 3: A B1 Lancer

Fig. 4: Boeing B-2 Spirit is a strategically American stealth bomber that can launch both regular bombs and nuclear bombs

Boeing B-2 Spirit is a strategically American stealth bomber that can launch both regular bombs and nuclear bombs. It is built by Northrop Grumman and is the most expensive plane ever built in the world.

In the early 1980s, the Soviet Union introduced a new generation of Sukhoi Su-27 hunting/intercepting aircraft, Mikoyan-Gurevich MiG-29 and especially Mikoyan-Gurevich MiG-31, along with early warning and airplane sightings type BERIEV A-50. All these planes have down/shoot down capabilities to detect, track and attack targets under the radar horizon. Thus, the tactics used by the US B-52 bombers and the B-1 prototypes to penetrate the enemy space flying at very low altitudes under the terrestrial and air radar detection has become risky.

With the development by Northrop of the software called continuous curvature to measure the reflection of radar waves on round surfaces (see Tacit Blue), it was possible to design a heavily detectable aircraft with a much lower aerodynamic coefficient than at F-117.

The concept of a strategic bomber able to penetrate unplanned Soviet airspace emerged in the late 1970s (Fig. 4).

The idea was for the plane to enter the early hours of a nuclear war in the Soviet airspace without the risk of being detected by radar means or sensors in infrared. It was tasked to seek and destroy targets of maximum importance such as the Soviet Mobile Missile Missiles (SS-25), command and control centers and to create large breaches in the Soviet anti-aircraft defense system. Thus, the easily detectable B-52 and B-1 bombers would have been given a free passage to attack strategic targets that could not have come close to other conditions.

The specification provided for a passive electronic sweep and low interceptor multimode radar that is coupled to an inertial and GPS satellite navigation system for high-precision weapon guidance (Very low radar and infrared signature fuselage) and Intercontinental action line (including refueling capacity in flight) and capability to carry the full range of conventional and nuclear weapons.

It's the first fully engineered plane on the computer, inventing hundreds of new materials, new design, testing and computer-assisted manufacturing processes. It required extensive computer testing of all aerodynamic and radar signature features.

Very low radar detection required the choice of a fly-wing configuration (see Northrop YB-49). However, the aerodynamic instability of this configuration must always be compensated by a fly-by-wire computerized flight control system. For this plane to fly and carry out the mission, it takes approx. 200 computers with specific tasks.

Fig. 5: Boeing B-52 Stratofortress is a long-range, subsonic, reaction-packed bomber

R&D costs amounted to approx. $ 46 billion.

Boeing B-52 Stratofortress is a long-range, subsonic, long-range reaction bomber. The B-52 was designed and built by Boeing, which subsequently provided maintenance and improvements. The bomber is used by the United States Air Force in the 1950s. It can carry up to 32 tons of weaponry.

After winning the contract in June 1946, the bomber evolved from a right-wing configuration and six turbo propellers to an arrow wing configuration and eight turbochargers for the YB-52 final prototype (Fig. 5). The inaugural flight took place in April 1952. Built to carry nuclear weapons in Cold War disaster missions, the B-52 Stratofortress replaced the Convair B-36. Although it has been used in many wars, the B-52 only used conventional weaponry in combat. The name Stratofortress is rarely used outside of official contexts; crews use the name BUFF (Big Ugly Fat/Flying Fucker/Fellow).

The B-52 has been in the United States arsenal since 1955. With superior performance at high subsonic speeds and relatively low operating costs, the B-52 has been retained despite the emergence of more advanced models such as North American XB-70 Valkyrie (capable of touching Mach 3), Rockwell B-1 Lancer (variable geometry) or Northrop Grumman B-2 Spirit (with stealth technology: undetectable radar).

Discussion

Military airplanes are constantly being renewed, bringing new models capable of changing the face of military actions, but also strategies and future action, thanks to new, increasingly advanced technologies that are continually being deployed. Airplanes have increased autonomy, increased combat capabilities and electronics and automation that are already taking on an SF movie. Today the military technique has often surpassed the limits of the SF becoming the reality louder than the

fiction. Obviously, the most advanced military techniques are generally not disclosed to us, but we still hear a little about them or their capabilities from various sources of mass information.

Conclusion

Boeing will build a self-propelled military aircraft to accompany US combat aircraft during missions.

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Ethics

Author declares that are not ethical issues that may arise after the publication of this manuscript. This article is original and contains unpublished material.

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