

## **Airship do Brazil (ADB) airships**

Peter Lobner, 17 August 2019

Airship do Brazil (ADB), with offices in São Carlos and Brazilia, has flown its ADB 3-X01 prototype airship and is developing the larger ADB 3-3 and ADB 3-30 commercial airships. ADB has other airship projects for unmanned surveillance and high-altitude “atmospheric satellite” applications. ADB has an important role in the national program to build an indigenous airship industry. The ADB website is here:

<http://www.airshipdobrasil.com.br>

In March 2018, Dr. Marcelo Felippes, CEO of Airships do Brasil, announced that ADB and Canadian airship firm Buoyant Aircraft Systems International (BASI) had signed a Memorandum of Understanding (MoU) under which the two companies will work together to produce zeppelin-style rigid airships that eventually will be able to carry up to 100 metric tons (110 short tons) of cargo. The two businesses will work together to develop a cargo airship industry that will be able to serve the large remote regions of both countries that are without road access (about 70% of both Canada and Brazil). The first airship to be developed under this MoU will be a 15 metric ton (16.5 short ton) cargo airship to be designated the ADB 3-15. BASI president, Dr. Barry Prentice, noted that an airship capable of carrying 15 metric tons could cut the costs of moving perishable goods into those remote communities in half.

Airships do Brazil brings engineering expertise to their partnership with BASI as well as important airship infrastructure. One particularly valuable asset is a full-sized, functional airship hangar dating back to the 1930s when it was used to support trans-Atlantic zeppelin operations. In those days, zeppelins were successfully flying 70 tons of cargo across the ocean. ADB’s hangar is about 900 feet (274 meters) long and 150 feet (46 meters) high and is large enough to build a modern airship designed to carry 100 metric tons (110 short tons) of cargo.



*The ADB airship hanger.*

Source: <https://www.cbc.ca/news/>, 11 March 2018

### **The ADB 3-X01 prototype**

The ADB airship prototype, the 48 meter (157 ft) long ADB 3-X01, made its inaugural flight on 24 July 2017, becoming the first indigenous, manned airship built and flown in Latin America. This prototype is designed to carry six people and loads up to 1.5 tons.



*ADB 3-X01 prototype. Source: Airship do Brazil*

### **The ADB 3-3 airship**

Airship do Brazil's 138S airship, which is the base model for the certification of the airship line ADB 3-3, received its type certification on 24 May 2018 from the national certification agency of Brazil (ANAC) and became the first indigenous airship certified in Latin America (and the entire southern hemisphere). The ADB 3-3 will be certified via an amendment to the 138S type certificate.

The ADB 3-3 is a modest-sized airship, significantly smaller than the Zeppelin NT, designed for operation by a single pilot with five passengers or a useful payload of about three tons. The airship's envelope is a low-permeability fabric with aluminum control surfaces. It is intended for pilot training, electric transmission line inspection, surveillance, demonstration of airship technologies, marketing and other functions.

### **The ADB 3-30 airship**

A larger semi-rigid cargo airship, the ADB 3-30, is being designed to transport 30 to 52 metric tons (66,139 to 114,640 lb) and can fly with a cruising speed of 125 kph (78 mph) at an altitude of about 400 meters (1,200 feet). The concept drawing shows a semi-rigid airship with a long gondola / keel with vectored thrust propulsors under the envelope and another propulsor mounted at the stern of the envelope.



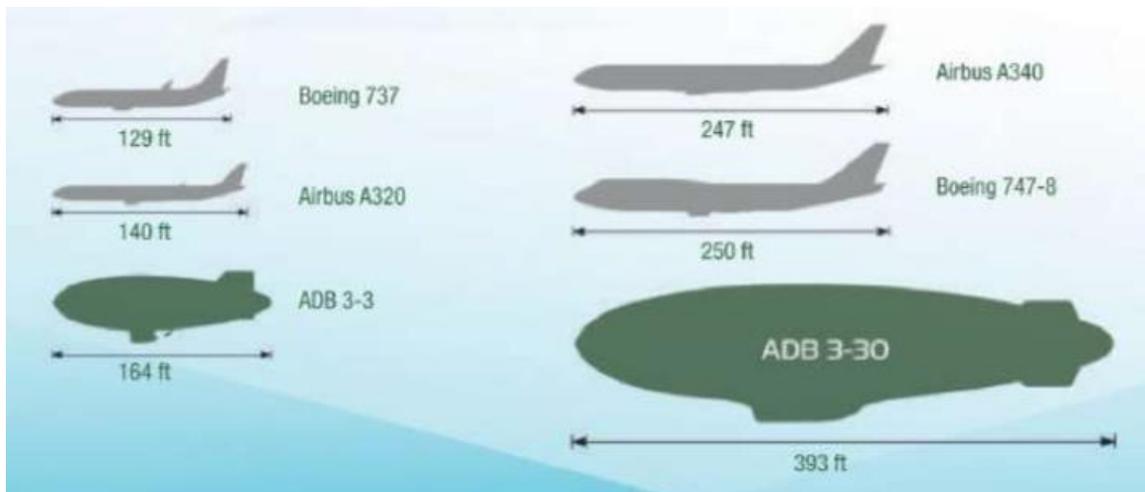
*ADB 3-30 concept drawing. Source: Airship do Brazil*

The great majority of Brazil's roads are unpaved, making ground transportation very difficult even in areas of the country that have roads. Large remote areas of Brazil have no roads at all. This cargo airship will be capable of handling heavy cargo in an internal cargo bay or as an underslung load, making it useful to a wide range of industries and other applications.

In 2017, Paulo Caleffi, president of Airship do Brazil, reported that at least five private and two state-owned companies are already negotiating the purchase or lease of the airships. Potential applications include:

- State-owned company Eletronorte plans to use an airship to inspect high voltage lines in difficult-to-reach places such as mountains and forests.
- The Post Office intends to use the aircraft to deliver parcels

A schedule for certification and delivery of the ADB 3-30 to customers has not been announced.



*Relative sizes of the ADB 3-3 and the larger ADB 3-30 cargo airship.  
Source: Airship do Brazil*

### **The ADB 3-15 airship**

Little is currently known about this airship except that it is being designed to carry a 15 metric ton (16.5 short ton) payload.

Dr. Barry Prentice noted that the first joint airship will use conventional fuels. BASI's longer-term goal is to implement hydrogen fuel cell propulsion and create an electric airship, which will have zero carbon emissions.