

SAIC Skybus 80K

Peter Lobner, Updated 3 April 2021

The Skybus 80K was a proof-of-concept, non-rigid airship designed to carry a significant payload and fly autonomously on long duration missions. The goal of this program was to demonstrate greater persistence over target with a greater payload than was possible using an unmanned drone aircraft. Science Applications International Corporation (SAIC) was the prime contractor and systems integrator for this demonstration project.

Lindstrand USA was responsible for the Skybus 80K vehicle primary envelope and flight structure, which is similar in design and operation to a non-rigid Goodyear blimp (the version before the Zeppelin NT model LZ N007-101). The Skybus 80K had an empty weight of 1,600 kg (3,527 lb) and a gas envelope volume of 2,300 m³ (80,000 cubic feet). All of the lift is provided by helium and the propeller is used only for propulsion.



Skybus 80K floating in its hanger at Loring AFB.

Source: Photo by Whit Richardson via <https://www.mainebiz.biz>



*Skybus 80K in flight.
Sources: (Above) Lindstrand USA, (Below) DoD, 2012*



Flying out of Loring Air Force Base in Caribou, Maine, the Skybus 80K met its program objectives for carrying 500 pounds (227 kg) to 10,000 feet (3,048 m) for 24 hours without refueling. While these may seem to be modest objectives, Skybus 80K was granted the first U.S. certificate for an unmanned experimental airship. This was an important milestone in the development of optionally manned airships.

You can see a short 2010 video of the Skybus 80K rollout and flight at the following link:

<http://lindstrandusaus.com/index.php/videos/mediaitem/49-saic>

In support of their development of the much larger Airstation UAS (unmanned aerial system) carrier, SAIC and ArcXeon modified the Skybus 80K to serve as a demonstration platform carrying two small UAS.



*Skybus 80K carrying two Insitu ScanEagle UAS.
Source: SAIC / ArcXeon*

For more information:

- Ron Hochstetler, “Airships for the 21st Century,” IEEE Spectrum, 30 September 2010: <https://spectrum.ieee.org/aerospace/aviation/airships-for-the-21st-century>
- Report to Congress, “Summary Report of DoD Funded Lighter-Than-Air-Vehicles,” DoD Office of the Assistant Secretary of Defense for Research and Engineering, 1 November 2012: <https://www.hsdl.org/?view&did=728733>

Video:

- “Airship Renaissance” (1:58 minutes), IEEE Spectrum, 1 October 2010: https://www.youtube.com/watch?v=hH1i44-2R5k&feature=emb_logo