



Aeros' newest air vehicle, the Aeroscraft, was developed to provide new ways of moving heavy and oversized cargo from point-of-origin to point-of-need, even to areas with damaged infrastructure or those lacking development.

The Aeroscraft offers the most flexible and efficient vertical frieght logistics solution for oversized cargo. The Aeroscraft is not a bimp. It is a new type of aircraft built with a suite of technologies enabling vertical take-off and landing and hover capabilities.

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≫ aeroscraft

HISTORIC A historic development is taking place in aviation. The vertical take-off and landing (VTOL) capability of helicopters, range and cargo capacity of airplanes, and fuel consumpution benefits of lighter-than-air (LTA) vehicles are being combined with innovative new technology and textiles to create a new class of aircraft. The Aeroscraft will serve military, business, and humanitarian efforts in exciting new ways.

GAME-CHANGER The Aeroscraft will be a game changer for global logistical solutions, lifting 66 or 250 tons to establish new commercial transportation alternatives for the 21st century. The Aeroscraft does not require runways, airports, or ground support. It expands the potential for commercial cargo transport, has strategic and tactical military-mobility applications, and could be vital in large-scale humanitarian relief efforts around the globe.

FOR EVERYBODY For the military, the Aeroscraft can provide mobility solutions. For commercial companies, it will revolutionize cargo logistics, especially for oversized payloads, or where infrastructure challenges and personnel limitations apply. For the rest of us, we may soon be able to cruise the skies in greater comfort and with amazing ground views. For the ultra rich, translation: sky-yachts!

- WHO DOESN'T Who doesn't want to go on a sky cruise, or enable cargo logistic solutions that can better serve disaster victims, better preserve our nations most pristine environments, and better help the military move mass cargo and personnel to remote areas lacking runways or roads? As you can imagine, the interest has been incredible since the technology demonstration in January 2013, and it's a very exciting time at Aeros.
- **NEED** The biggest obstacle that conventional LTA vehicles and hybrid airships face is their inability to control buoyancy. The requirements for external ballast exchange, ground infrastucture, and need for runways significantly limited airships usefulness for cargo and other applications, prior to the Aeroscraft's introduction. The Aeroscraft advantage will be disruptive, strategic, and welcomed by industry.

SELF-BALLASTING The Aeroscraft vehicle compresses inert helium into large storage tanks to become heavier than air. The helium is released back into the vehicles' envelope to become lighter-than-air. No helium is lost during the process and no helium cleaning is required. This innovative control of static heaviness (COSH) system means an Aeroscraft can provide precise cargo deployment from hover, or when landed, free from the need for existing infrastructure or ground personnel.

DISRUPTIVE INNOVATION

The Aeroscraft is the only rigid variable buoyancy air vehicle of its kind designed to control static lift in all stages of air or ground operations, including the ability to offload payload without re-ballasting. The Aeroscraft is the only advanced rigid hybrid airship with COSH-enabled, VTOL capability, offering an escape from infrastucture, ground personnel and other logistical challenges involved in cargo deployment and general aviation.





12,000 π

ALTITUDE CELIING

Off-Loading/ On-Loading Payload from Hover

: 10

The Aeroscraft's patent-pending control of static heaviness system and ceiling suspension cargo deployment system automate weight-balance and permit cargo deployment with precision. Manpower for on-loading and off-loading payload from the Aeroscraft will require only the pilot. No ground crew is needed.

Vertical Take-off and Landing

While other hybrid airships are runway dependent at higher operating weights, the Aeroscraft does not need a runway, even at full payload, because of its vertical take-off and landing technology.



Control of Static Heaviness

2 aeros

The control of static heaviness is Aeros' solution to a virtually ballast exchange-free flight. Through a pilot's control, the vehicle itself can be configured to provide enough static heaviness to officad personnel and cargo, without the limitation of taking on external ballast to stay grounded.

Rigid Structure

120 n

HEIGHT

Generally, modern airships have a non-rigid structure, and these vehicles rely on the gases that fill them to retain their shape. Unlike other airships, the Aeroscraft has a rigid structural design. The Aeroscraft is the only rigid structure variable buoyancy air vehicle of its kind, and its rigid structure is made from ultra-light aluminum and carbon fiber materials.



Cost Effective

The Aeroscraft utilizes lighter-thanair technologies to provide lift to cargo airship. As a result, only 1/3 of the fuel used in a traditional cargo airplane is needed to fly the Aeroscraft up to 3,100 nautical miles at the same speed as a helicopter. The Aeroscraft will carry similar payloads for only a fraction of the cost.









ABOUT AEROS

- Worldwide Aeros, Corp. (Aeros) is a privately held international aircraft company headquartered in Los Angeles. Aeros is the world's most innovative, FAA-certified, lighter-than-air (LTA) aircraft manufacturing company.
- The Aeros team does complete in-house research, development, production, flight and operation of Aeros-branded advanced-technology air vehicles, FAA production certification, and flight innovation.
- Aeros products are now used globally for government, commercial and humanitarian applications. They include the non-rigid, Aeros 40D Sky Dragon airship, advanced tethered aerostatic systems, and portable communications and surveillance towers.
- Aeros currently produces the most technogically advanced airship on the market-40D Sky Dragon. The Sky Dragons's digital flight management system and flyby-wire technology deliver the next step in the evolution of the airship industry. The Aeros 40B and 40D Sky Dragon airships achieved FAA certification in 2000 and 2007.
- Aeros mantains an 80,000 square-foot engineering and manufacturing facility in Los Angeles, as well as an assembly flight test facility inside a historic 500,000 square-foot hangar in Tustin, Ca.
- The Aeroscraft is the only cargo "hybrid airship" with the vertical takeoff and landing (VTOL) capability offering an escape from infrastucture, ground personnel, and other logistical challenges in cargo deployment.
- The advanced prototype of the Aeroscraft has been designed and built by top aeronautical engineering minds, and has reached completion. This massive 260-foot long prototype (a roughly 1:2 model of the planned 66 ton Aeroscraft) was built to prove its innovative technology and scalability.
- Aeros is the only LTA company with the DOD as a current customer.





ABOUT: IGOR PASTERNAK (CEO)

- Igor Pasternak, the company's CEO and chief engineer, founded Aeros over 25 years ago.
- Pasternak was born in Kazakstan inside the Soviet Union. He formed his first company, Aeros Ltd., in the Ukraine. The Ukraine-based Aeros Ltd. built and delivered advertising blimps and tethered aerostats to customers across Europe.
- He immigrated to the United States in 1991 and founded Worldwide Aeros Corp. (Aeros), one of only two companies in the United States that manufactures FAA-certified airships.
- Pasternak has guided Aeros into becoming a global provider of advanced transportation solutions.
- Pasternak's design, the Aeroscraft, has attracted support and development funding from the National Aeronautics and Space Administration (NASA), the U.S. Air Force, and the prestigious Defences Research Projects Agency (DARPA).
- He has twice been honored as Small Business Person of the Year, by the U.S. Small Business Administration and the Los Angeles Area Chamber of Commerce.
- Today, Pasternak's disruptive and innovative dream is on the cusp of reality.



General Raymond Johns U.S.A.F - Retired

"What if we can have a vehicle that basically is 1/3 the cost of air but can move a great amount? What if we have a vehicle that moves at 100 miles an hour that could take up to 500 tons? What if the vehicle has the ability to take off vertically, move horizontally? And it may take a little bit longer but it has the capability from 60 to 100 to 500 tons. And it can do it economically? And it has the survivability to go into a permissive environment? So that's what the promise of this next technology is, the hybrid airship, and we need to explore it, and we're doing that now. One of the issues for us is buoyancy, because basically lift is buoyancy. And so now technology is there to say how do we manage buoyancy? And if we can manage buoyancy, we then make this a more effective vehicle. Because if I can take off vertically, I take off my infrastructure requirements, I reduce my support requirements, and so it becomes a very efficient way to, um, be effective for the war fighters. So we're pursuing that, because again, I'd like to be able to lower the

cost. We may still respond with fixed wing initially, but think about our ability to traverse the world with that type of capability with 1/3 the cost of air."



GAO Report: October 2012

"Platforms that utilize lighter-than-air (LTA) technologies—such as aerostats (buoyant craft tethered to the ground), and airships (buoyant craft that are free-flying)— may hold the potential for significantly increasing capabilities in the areas of

persistent intelligence, surveillance, and reconnaissance (ISR) and communications, as well as lowering the costs of transporting cargo over long distances and to austere locations, such as those without aircraft runways. The Department of Defense (DOD) has embarked on a variety of efforts to develop and acquire LTA platforms for these purposes. DOD's investments in these platforms totaled about \$1.3 billion in fiscal year 2012. Additionally, other federal agencies, such as the Department of Homeland Security (DHS), are using or are considering using these platforms in conducting their missions."



U.S. House of Representatives

"The committee is aware that hybrid airship technology has the potential to provide much needed capability for the Department of Defense, particularly with regards to cargo lift and logistics. In the past, the committee

has supported the development and demonstration of hybrid airship technology, and continues to monitor developments with interest. The committee is aware of recent developments that have demonstrated innovative capabilities in airship design and lift."

Jennifer Elzea



"Project Pelican, a non-deployable airship technology demonstrator designed by Aeros, met its demonstration objectives in January [2013] within parameters accepted

by the Pentagon and NASA." She confirmed Project Pelican also demonstrated, "a rigid, lightweight-composite external structure; a responsive low-speed/hover control system; and ground handling capabilities that allow operations without ground handling crew."



Senate Committee on Armed Services

"The committee understands that there is some degree of interest in the commercial sector for the transportation capabilities of a heavy-lift hybrid airship. If such a capability were developed in the private sector, there

is the potential opportunity for DOD to leverage this capability for its needs. The committee directs U.S. Transportation Command and the Air Force Mobility Command to monitor progress in this area and report to the congressional defense committees no later than 180 days after the enactment of this Act on the status of developments in the commercial sector regarding hybrid airships that could be used to provide the capability identified by General Fraser, and to what extent the DOD could benefit from them."



General William Fraser III U.S.A.F

"Hybrid airships represent a transformational capability, bridging the longstanding gap between high-speed, lowercapacity airlift, and low-speed, higher-capacity sealift. Across the range of military operations, this capability can be leveraged from strategic to tactical distances. From swift crisis action support

to enduring logistical sustainment operations, hybrid airship technology has the potential to fulfill 'factory to foxhole' cargo delivery. We encourage development of commercial technologies that may lead to enhanced mobility capabilities in the future."

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