Innovative Transportation Solutions Using Airship, (Buoyant Aircraft) Technology

Dale George, CTO

Buoyant Aircraft Systems International

A Brief History

1670 Francisco de Lana

1783 Prof. Charles & Robert

1784

Jean Baptiste Meusnier

1785 Blanchard & Jeffries English Channel Flight

1854 Henri Giffard

1870 Paris airlift

1901 Santos Dumont – first dirigible airship

1919 R.34 Crosses Atlantic both ways

1926 *Norge* First flight across the North Pole

1929 *Graf Zeppelin* Circumnavigation of the world

1930 R100 – Flight to Canada

1935 *DZR* Regular air passenger service across the Atlantic

1961 USN 113,740 ft

1979 SkyShip 500

2000

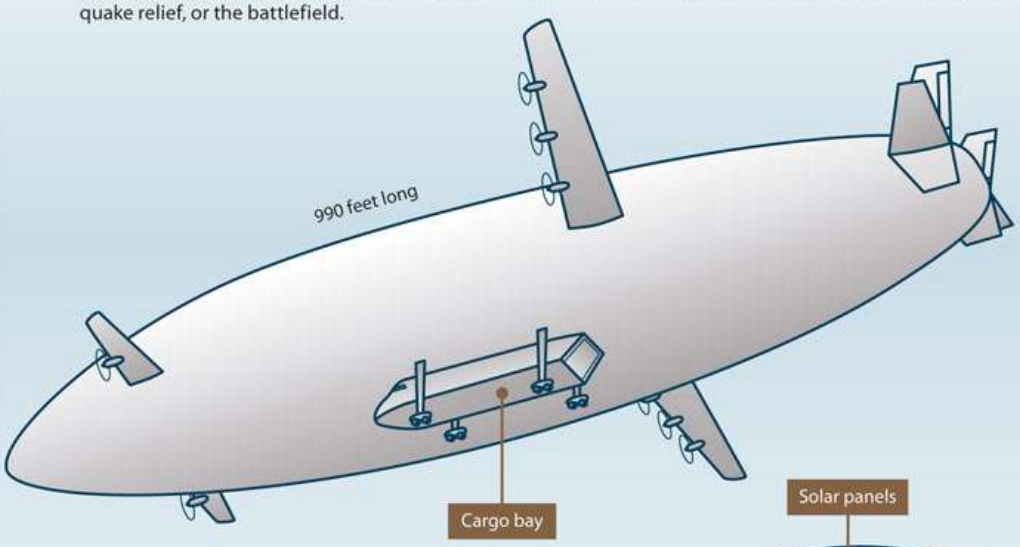
Zeppelin NT

2003 21st Century Airships altitude record - 6,234-metres

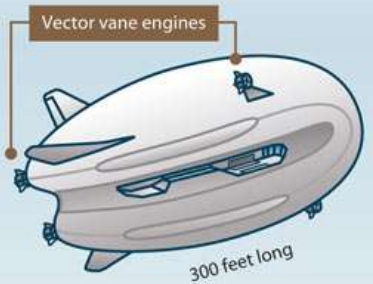
2006 LM *P-791* flight

INNOVATE | THE AGE OF THE AIRSHIP

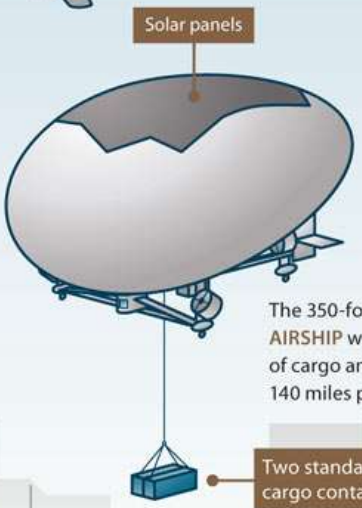
A SHADOW FALLS FROM ABOVE, and you glance up to see what looks like a giant marshmallow lifting off the roof of a skyscraper, loaded with solar panels bound for Omaha. This is the future that the "helium heads" envision: lumbering but graceful airships taking some of the load off trucks, trains, freighters, and even jets while expending little or no fuel. Inflatable craft can drop to precise locations or need only a short runway—useful for urban factories, earthquake relief, or the battlefield.



The mammoth, helium-filled **DYNALIFTER** would stay aloft with the help of stubby wings and sip fuel while moving faster than a freight truck. It could haul 160 tons of cargo between continents and land on a short airstrip—if the prototype ever gets the funds to leave its hangar in Ohio.



The **LONG-ENDURANCE MULTI-INTELLIGENCE VEHICLE,** or LEMV, being built for the U.S. Army is designed to stay airborne for three weeks. It gets lift from helium, its rigid structure, and four diesel engines and "vector vanes," which enable controlled takeoffs and landings.



The 350-foot-long, solar-powered **HELIOS AIRSHIP** would carry up to 120,000 pounds of cargo and cruise at an average speed of 140 miles per hour in the jet stream.

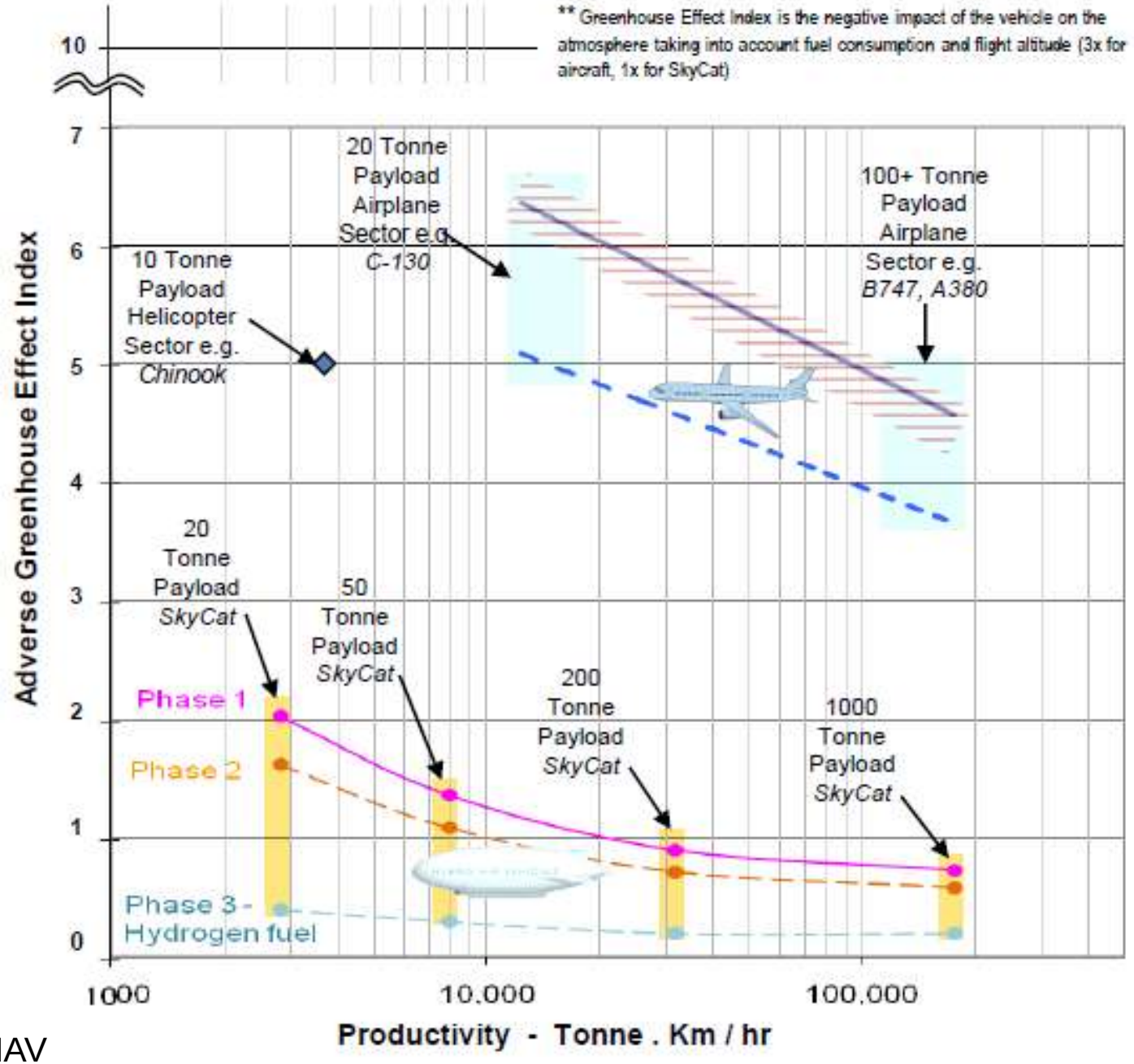
Current heavy lift Airship concepts

July 2013 Aeros Dragon Dream

No Energy is Required for the Lift

Fuel Cell and Electric power
Hydrogen filled
Vector thrust
Heavy and bulky lift
V.T.O.L. capable
No or little infrastructure

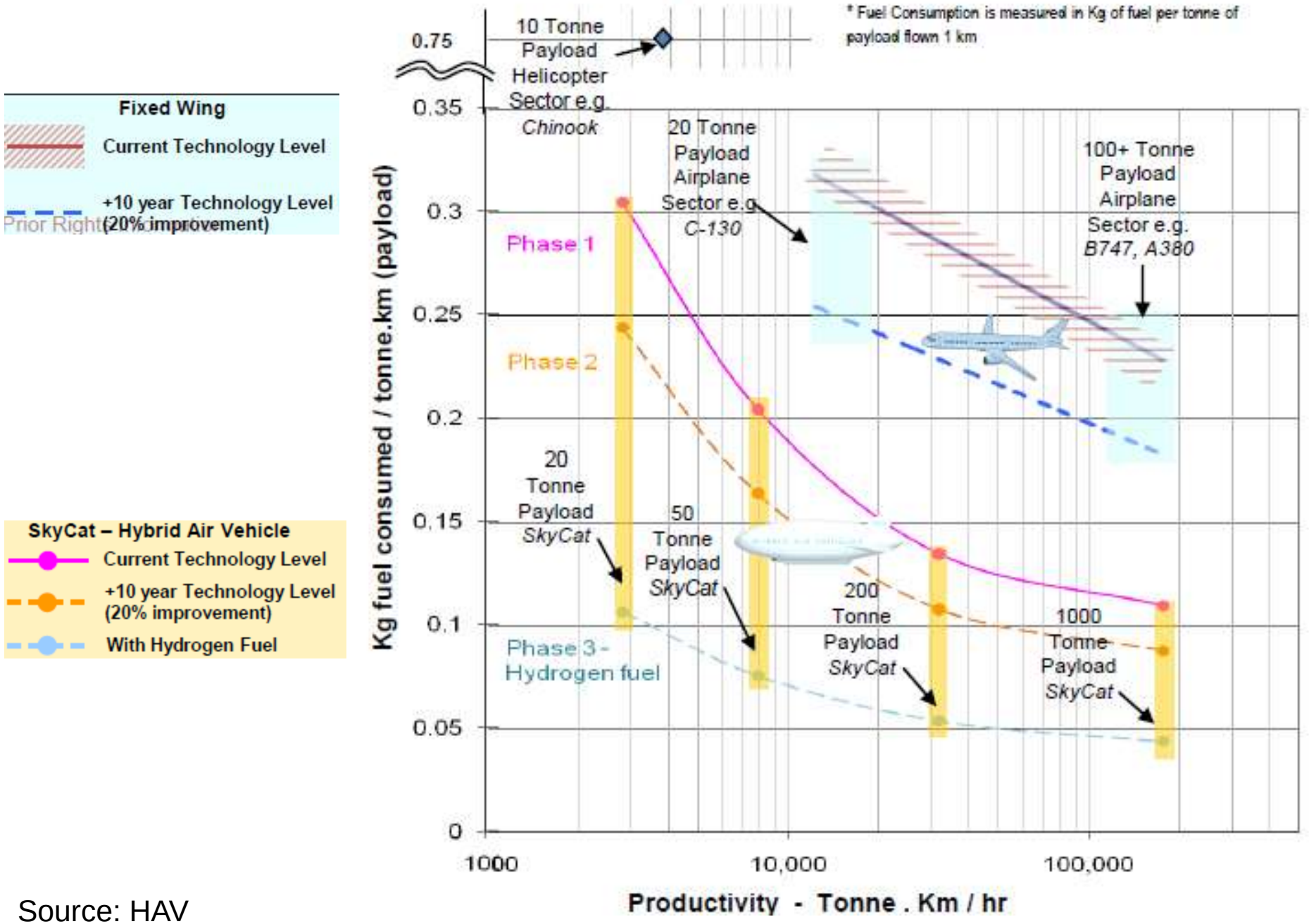
Greenhouse Effect** vs Aircraft Productivity



Source: HAV

Chinook, C-130, B747 and Skycat cargo aircraft

Fuel Consumption* vs Aircraft Productivity



Source: HAV

MB-140 Basic pilot training airship

MB-80 Optionally Manned UAV Research Platform

Future Developments

Thank You !

BASI