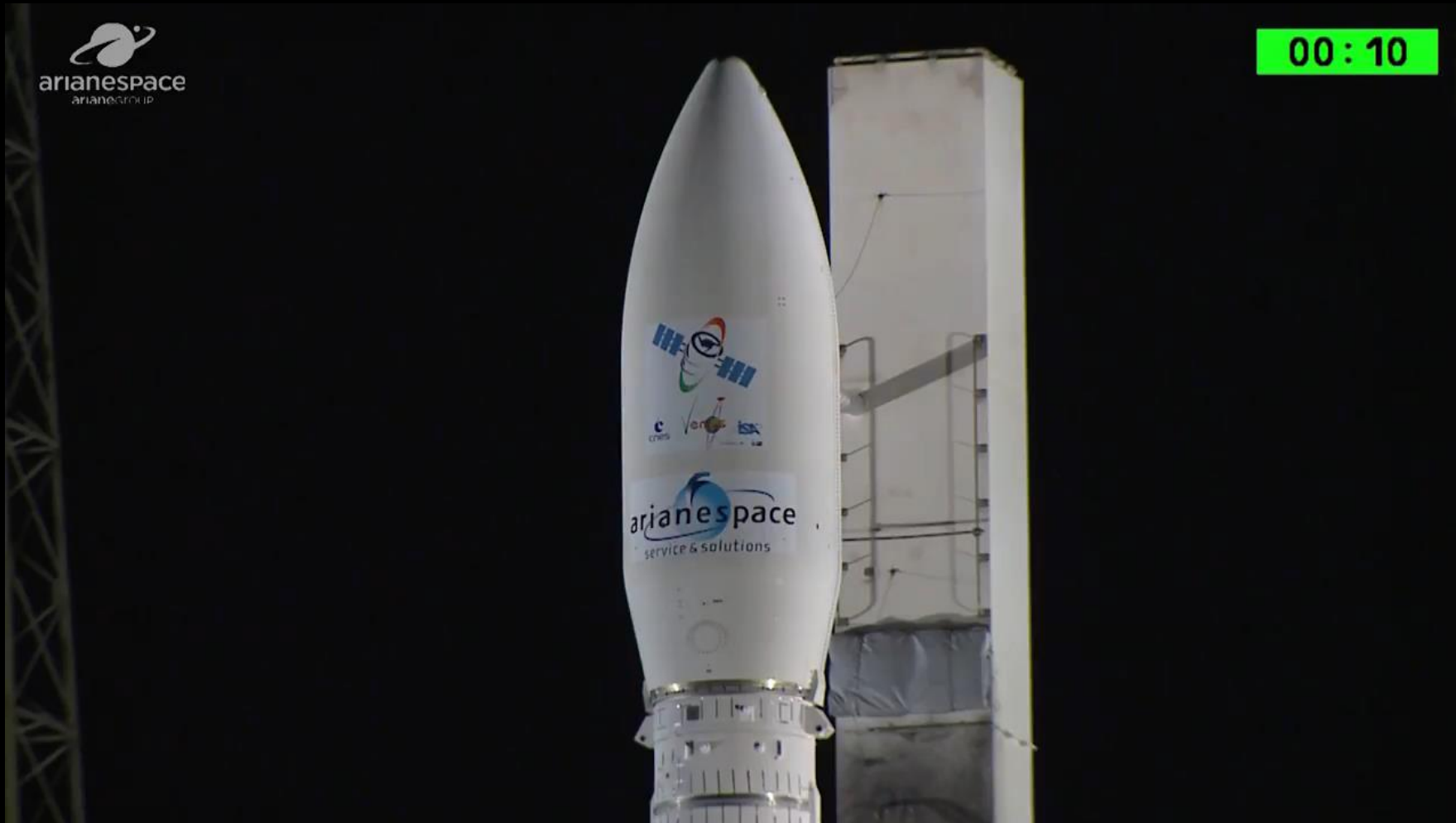


The Aerospace Update



Moon Rise from the ISS

Vega Launcher Achieves On-Target Deployment of Earth-Imaging Satellites

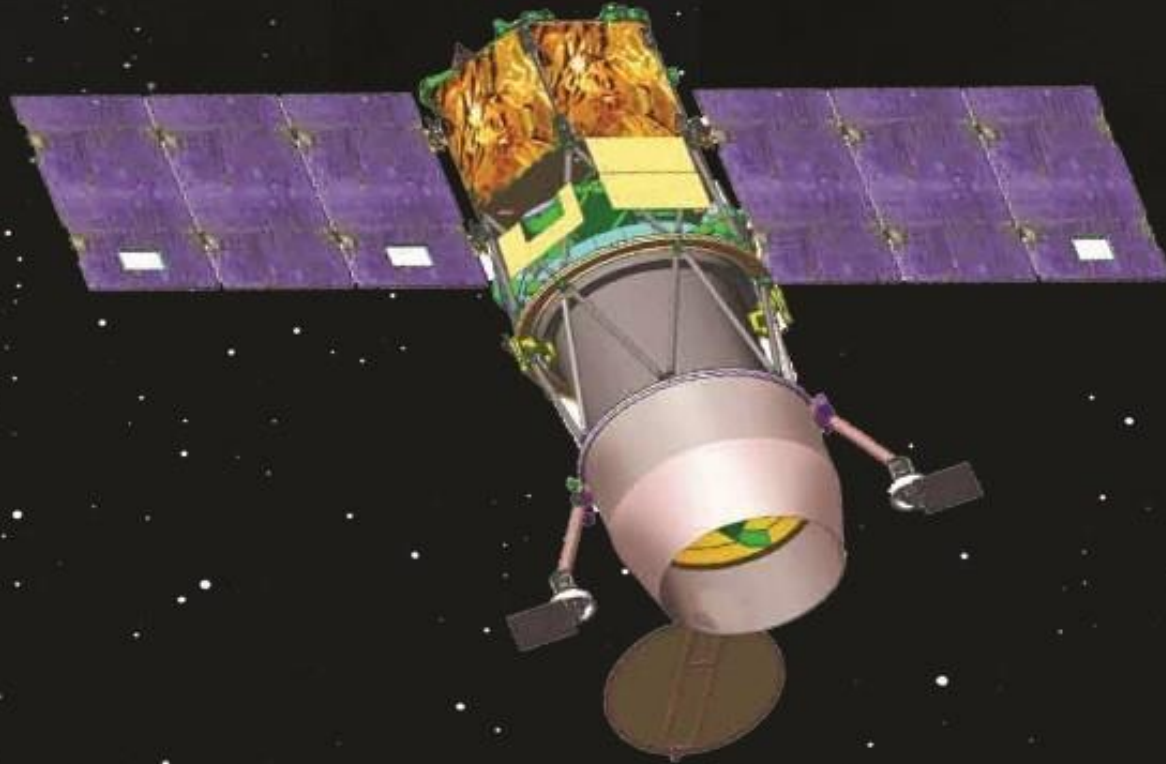


Firing off a launch pad on the fringes of the Amazon rainforest, a European Vega rocket climbed into space Tuesday, August 1st and deployed Optsat 3000, a new optical surveillance craft for the Italian military and Venµs, a French-Israeli environmental satellite to monitor vegetation, snow cover and coastal waterways both built by Israel Aerospace Industries. The Vega rocket was launched by Arianespace, the French company charged with managing commercial missions from the Guiana Space Center, a remote outpost on the northeastern shore of South America.

Video Credit: Arianespace

Source: Stephen Clark @ SpaceFlightNow.com

Italy's First Optical Surveillance Satellite

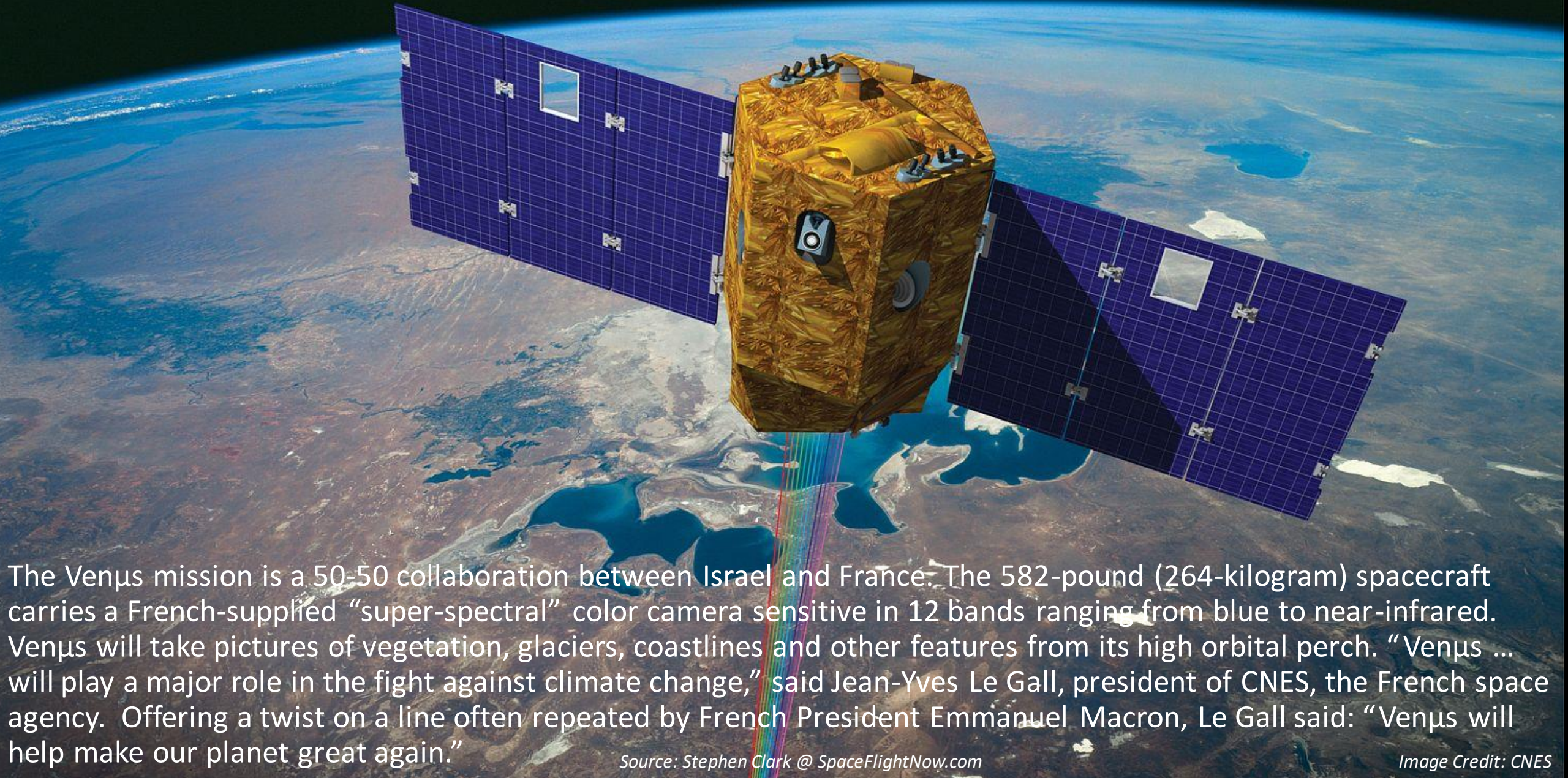


Opsat 3000 is Italy's first optical surveillance satellite, joining a fleet of Italian radar imaging craft already in orbit. The \$182 million satellite, designed for a lifetime of at least six years, carries a Jupiter remote sensing camera provided by Israel-based Elbit Systems Ltd. capable of resolving objects on the ground smaller than a half-meter (20 inches). The Italian Ministry of Defense ordered the Optsat 3000 satellite from Israel Aerospace Industries as part of a reciprocal contract arrangement, in exchange for the Israeli military's purchase of Italian-made jet trainers.

Source: Stephen Clark @ SpaceFlightNow.com

Image Credit: IAI

Venüs Satellite Will “Help Make Earth Green Again”

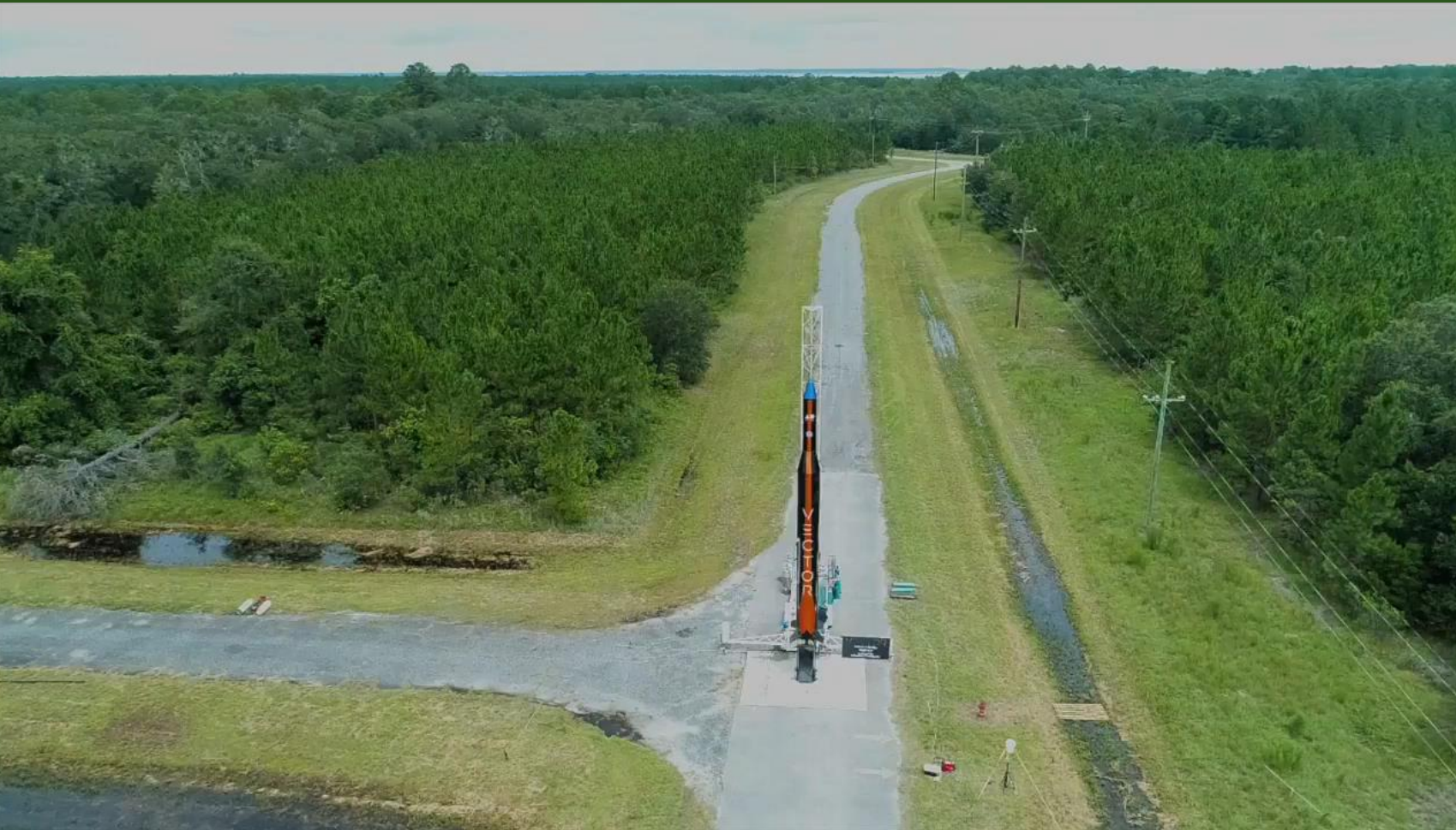


The Venüs mission is a 50-50 collaboration between Israel and France. The 582-pound (264-kilogram) spacecraft carries a French-supplied “super-spectral” color camera sensitive in 12 bands ranging from blue to near-infrared. Venüs will take pictures of vegetation, glaciers, coastlines and other features from its high orbital perch. “Venüs ... will play a major role in the fight against climate change,” said Jean-Yves Le Gall, president of CNES, the French space agency. Offering a twist on a line often repeated by French President Emmanuel Macron, Le Gall said: “Venüs will help make our planet great again.”

Source: Stephen Clark @ SpaceFlightNow.com

Image Credit: CNES

Vector Successfully Launches First Ever Rocket from Spaceport Camden



Vector Space Systems conducted a successful suborbital flight of its B0.002 test vehicle, a full-scale prototype of the company's Vector-R launch vehicle, on Aug. 3rd. This launch represents both the first customer-funded launch operation for the new space commercial launch industry, as well as the first launch out of the historic Spaceport Camden in Georgia, which was originally used by NASA in the 1960's for ground-based static fire testing of large solid rocket motors.

Source: Vector Space Systems & SpaceRef.biz

Video Credit: Vector Space Systems

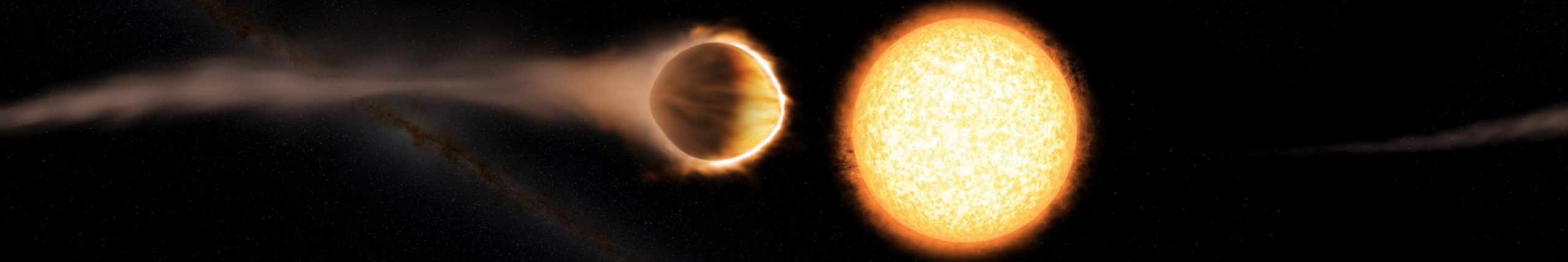
New Horizons' Next Target Just Got a Lot More Interesting



One artist's concept of Kuiper Belt object 2014 MU69, the next flyby target for NASA's New Horizons mission. This binary concept is based on telescope observations made at Patagonia, Argentina on July 17, 2017 when MU69 passed in front of a star. New Horizons theorize that it could be a single body with a large chunk taken out of it, or two bodies that are close together or even touching.

Source & Image Credits: NASA/JHUAPL/SwRI/Alex Parker

Hubble Detects Exoplanet with Glowing Water Atmosphere

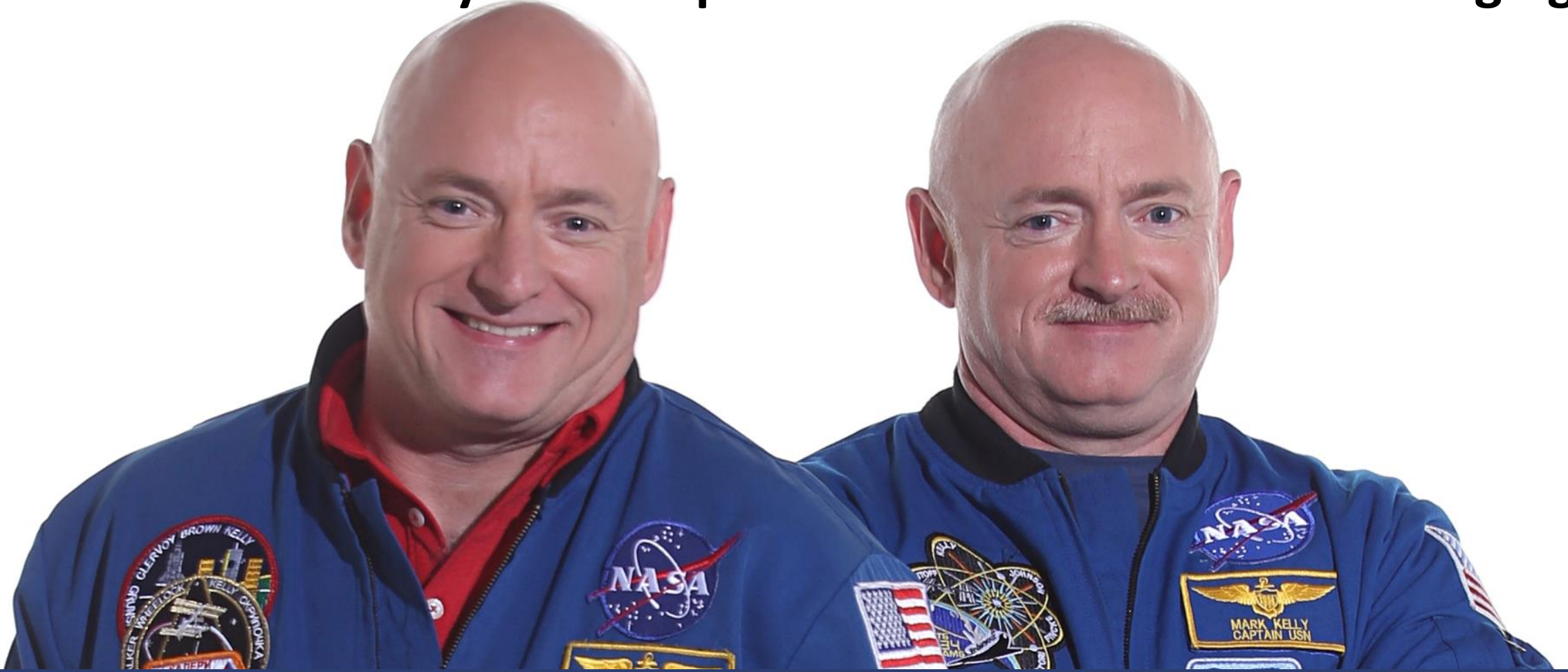


Scientists have discovered the strongest evidence to date for a stratosphere on a planet outside our solar system, or exoplanet. A stratosphere is a layer of atmosphere in which temperature increases with higher altitudes. Scientists used data from NASA's Hubble Space Telescope to study WASP-121b, a type of exoplanet called a "hot Jupiter." Its mass is 1.2 times that of Jupiter, and its radius is about 1.9 times Jupiter's -- making it puffier. But while Jupiter revolves around our sun once every 12 years, WASP-121b has an orbital period of just 1.3 days. This exoplanet is so close to its star that if it got any closer, the star's gravity would start ripping it apart. It also means that the top of the planet's atmosphere is heated to a blazing 4,600 degrees Fahrenheit (2,500 Celsius), hot enough to boil some metals. The WASP-121 system is estimated to be about 900 light years from Earth - a long way, but close by galactic standards.

Source: NASA.gov

Image credit: Engine House VFX, At-Bristol Science Centre, University of Exeter

Astronaut Twins Study Shows Space Travel Causes Premature Aging



Humans or any other living thing — be it a plant or a fruit fly from planet Earth — are not meant for space travel. Traveling in space is very hard on creatures, producing physiological effects similar to premature aging. This is the conclusion of a study on the genetically identical twins Scott and Mark Kelly who have spent differing amounts of time in space; Mark had 54 days in space, while Scott spent 365 days living on the space station.

Mars



Jet Propulsion Laboratory
California Institute of Technology

US Finalizes Deal for New Air Force One Jets Once Destined for Russian Airline



The US Air Force announced Friday that it has finalized a deal to purchase two already-built commercial 747-8 aircraft from Boeing to serve as the next generation of Air Force One, flying future presidents around the world for decades to come. A Boeing spokesperson told CNN the two aircraft in question were originally destined for a now bankrupt Russian airline. Following modifications, the presidential aircraft replacement will begin flying in 2024.

Source: Jon Ostrower and Ryan Browne @ CNN.com

Image Credit: Boeing

Next Marine One Helicopter Achieves First Flight



The US president's next helicopter, the Sikorsky VH-92A, flew for the first time on 28 July in Stratford, Connecticut. In two sorties, the aircraft, variant of the S-92, completed checked off several test points, including hover control, low-speed forward flight, and a pass over the airfield. The flight with Sikorsky's first engineering manufacturing and development aircraft marks the start of a 250h flight test program.

A Boeing Dreamliner Drew a Giant Outline of Itself in the Air



Late on Wednesday afternoon, a Boeing 787 Dreamliner took off from Seattle to spend the next 18 hours in the air for an endurance test flight. The creative minds at Boeing came up with something to make those hours fly by with some fun for the pilots. So the pilots flew a path across the skies of the United States that drew an outline of the plane itself, from wing to wing.

Source: Lisa Gutierrez @ The Kansas City Star

Video Credit: William Neff/The Washington Post



© JakubW

BOE004
Boeing Company

DEPARTURE	ARRIVAL
SCHEDULED -	SCHEDULED -
ACTUAL 15:38	ESTIMATED 09:38

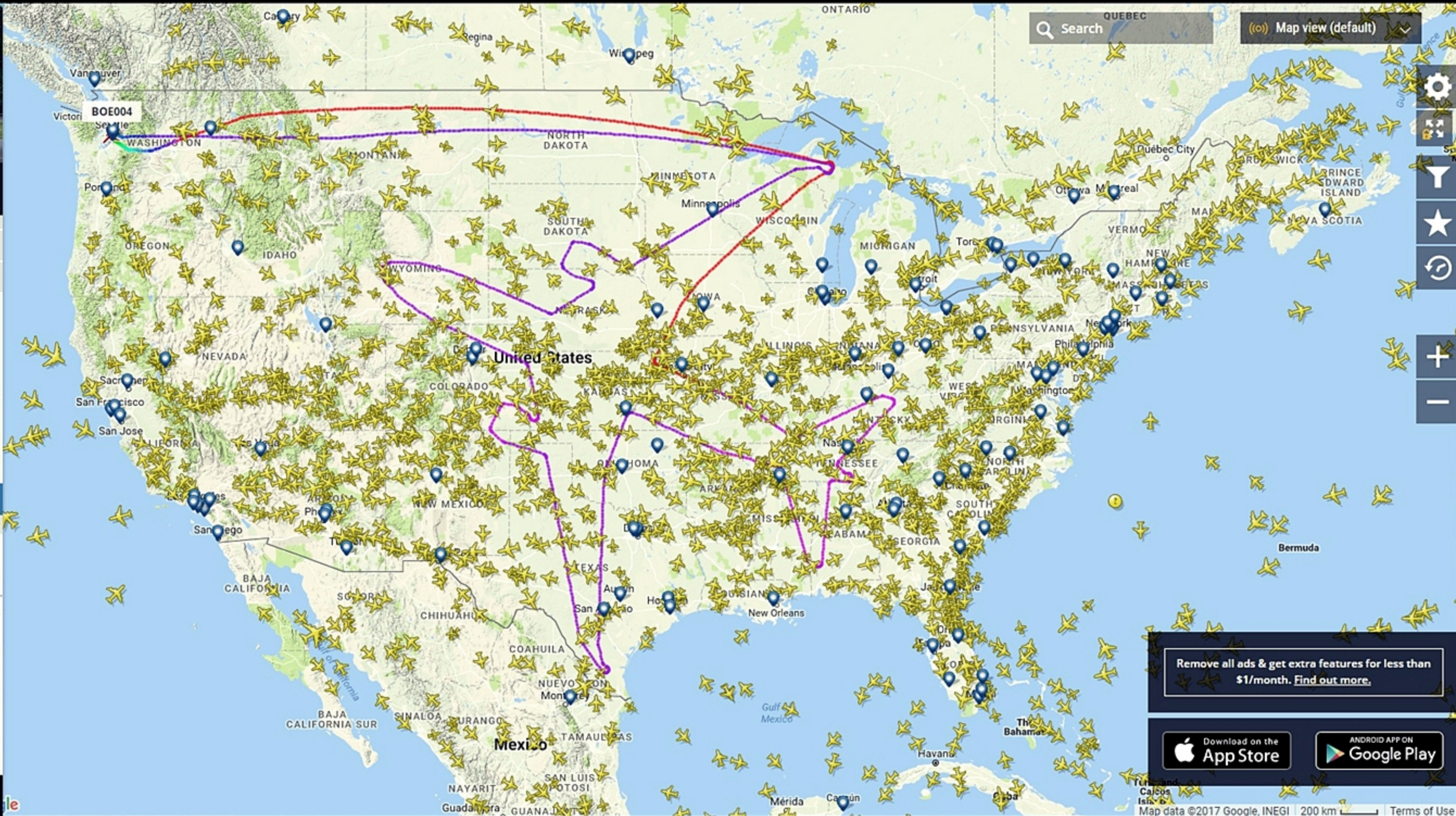
GREAT CIRCLE DISTANCE: 0 KM
1 KM 18:08 AGO 1 KM 00:07 AGO

TYPE (B788)
Boeing 787-8 Dreamliner

REGISTRATION N7874	MODE-S CODE AAAD6B
SERIAL NUMBER (MSN)	AGE

Recent N7874 flights

DEPARTURE	FLIGHT/ROUTE	
31 Jul	(BOE004) Willemstad (CUR) - Seattle (BFI)	
SCHEDULED DEP.	ACTUAL DEP.	SCHEDULED ARR.
-	09:42	-
STATUS	FLIGHT TIME	
Landed 14:31	07:49	
30 Jul	(BOE004) Willemstad (CUR) - Willemstad (CUR)	
30 Jul	(BOE004) Willemstad (CUR) - Willemstad (CUR)	
30 Jul	(BOE004)	



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Aug. 1, 1955: U-2 First Flight



First flight of Lockheed Martin's U-2 took place accidentally on August 1, 1955 when the highly efficient wings inadvertently caused the prototype to become airborne during a high-speed taxi test. The first official flight took place three days later with legendary Lockheed test pilot Tony LeVier at the controls.

Video Credit: Lockheed Martin Videos

Source: AviationWeek.com

In The News



SES Agrees to Launch Another Satellite on Previously-Flown Falcon 9 Booster. Six months after sending one of its communications satellites to orbit on the first re-flight of a SpaceX rocket, SES intends to launch a hybrid television broadcasting satellite owned in partnership with EchoStar on another previously-used Falcon 9 rocket from Florida's Space Coast as soon as late September. *(Stephen Clark @ SpaceFlightNow.com)*



Build-up Begins for First Minotaur Rocket Launch from Cape Canaveral . Ground crews at a long-dormant launch pad at Cape Canaveral are stacking surplus Peacekeeper military missile motors for the Aug. 25 launch of a Minotaur 4 rocket with a satellite designed to track orbital traffic thousands of miles above Earth. The Minotaur 4 is typically made of four stages — the three Peacekeeper motors and an additional commercial Orion 38 solid rocket on top — to send military satellites into orbit. *(Stephen Clark @ SpaceFlightNow.com)*



Virgin Galactic performed the latest glide flight of its second SpaceShipTwo suborbital spaceplane Aug. 4, calling it a “dry run” for upcoming powered test flights. The glide flight was the sixth for this SpaceShipTwo vehicle, named VSS Unity, and the first in two months. As on two previous glide flights, pilots tested the feathering system that raises the vehicle's twin tail booms for a safe reentry, then returned the tail booms to their normal position for landing. *(Jeff Foust @ SpaceNews.com)*



Virgin Orbit Readies For Boeing 747 'Cosmic Girl' Flight Test Build-Up. Virgin Orbit's modified Boeing 747-400 carrier aircraft, Cosmic Girl, is being readied for a series of ground and flight tests in the build-up towards captive-carry evaluations of the company's LauncherOne small satellite launch vehicle. The initial ground test phase will begin in early August and follows delivery of the former Virgin Atlantic Airways 747 to the company's Long Beach, California, headquarters on July 31. *(Guy Norris @ Aerospace Daily & Defense Report)*



Ghana's First Satellite Now Orbiting Earth. A cubesat built by a Ghanaian engineering team at All Nations University which was delivered to NASA's International Space Station in June on a SpaceX rocket and then placed into orbit from the ISS in July. Project manager Richard Damoah, a Ghanaian professor and assistant research scientist at NASA said the satellite has two missions. “It has cameras on board for detailed monitoring of the coastlines of Ghana. Then there's an educational piece—we want to use it to integrate satellite technology into high school curriculum.” *(Jake Bright @ TechCrunch.com)*