



NEAR-SPACE HIGH-ALTITUDE BALLOONS: THE ALTERNATIVE FOR SPACE TOURISM AND SCIENCE

ESAC Seminar
Madrid, Spain, March 12 2014

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Founder & CEO

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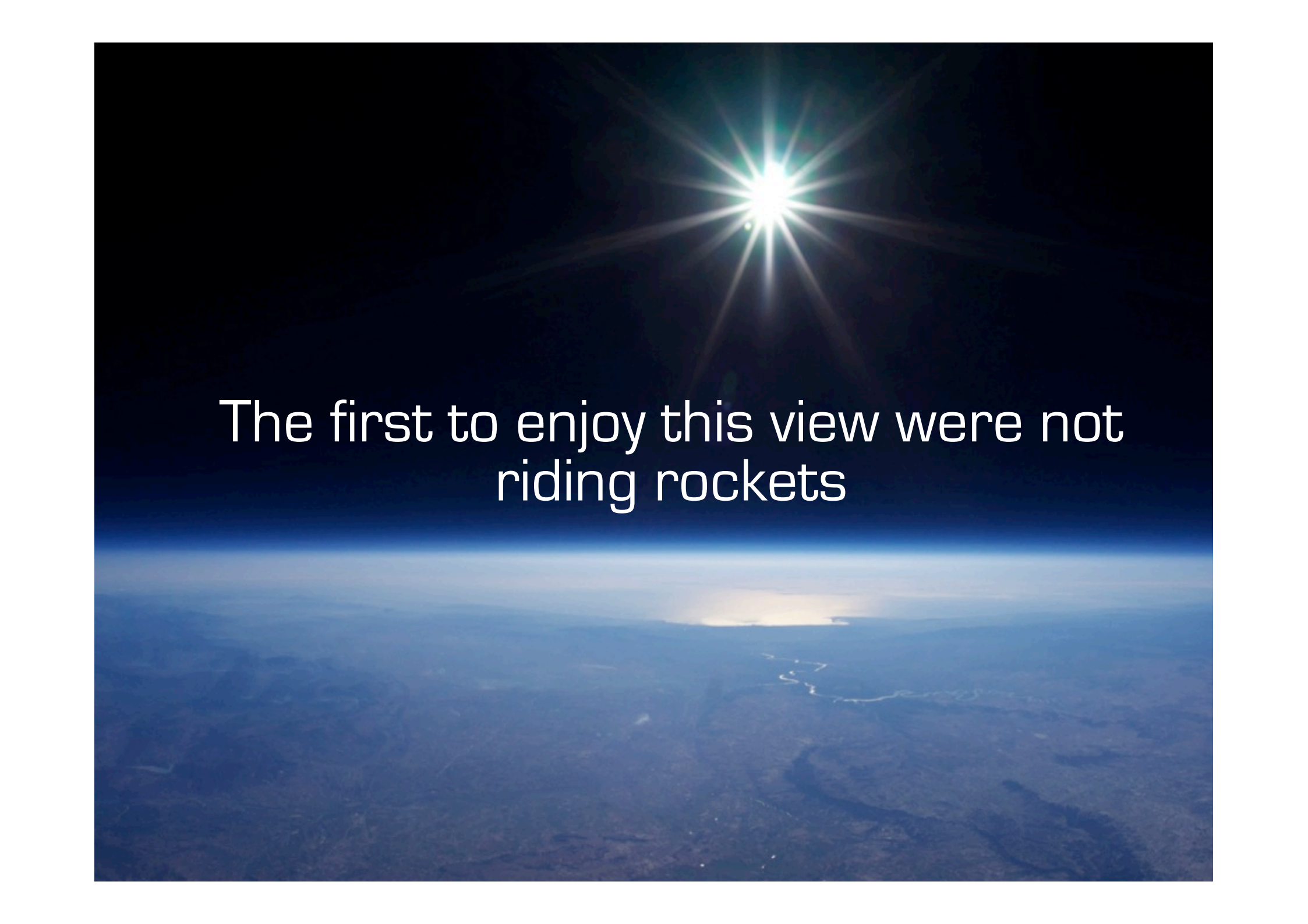
NEAR SPACE, THE ENABLER

360VIDEO

HISTORY

TOURISM

BEYOND

A photograph taken from space showing the Earth's horizon. The top half of the image is a dark, black sky with a bright sun in the upper center, creating a starburst effect with multiple rays of light. Below the sun, a thin, dark blue line represents the Earth's atmosphere. The lower half of the image shows a vast, blue-tinted landscape of the Earth's surface, with a winding river or road visible in the foreground and a large body of water in the distance.

The first to enjoy this view were not
riding rockets



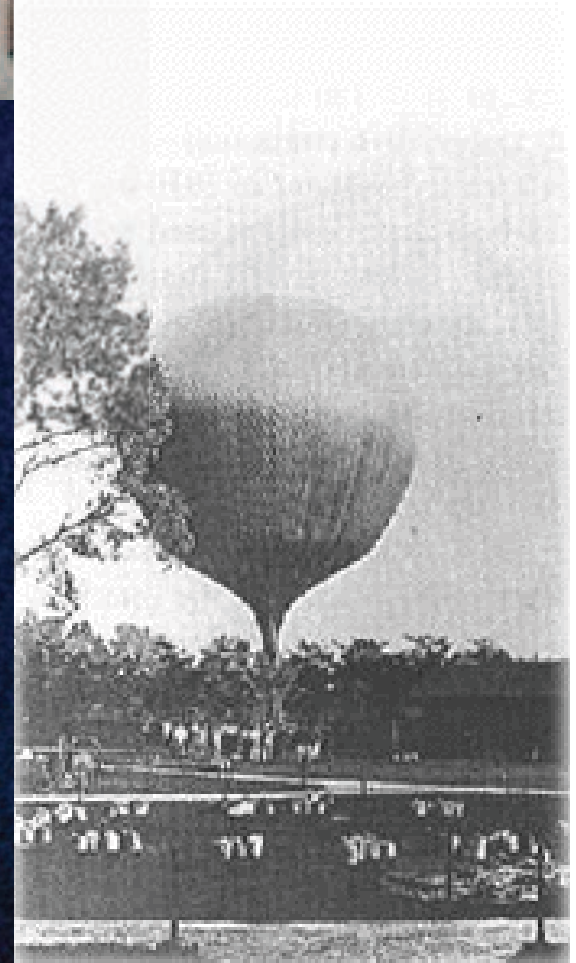
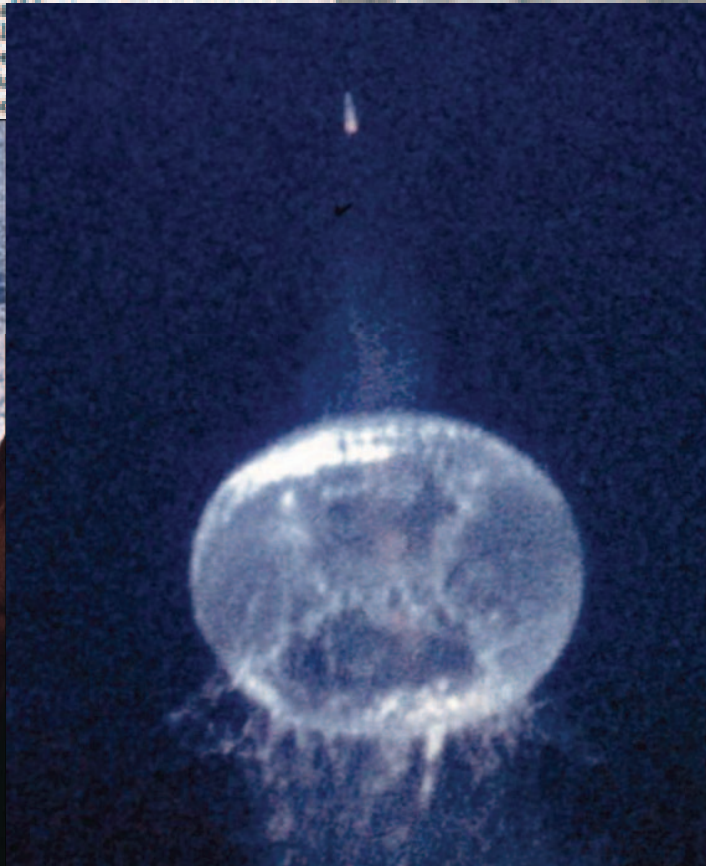
Cosmic rays, space suits, parachutes, rockets...



New Stratosphere Flying Suit Tested In Airless Chamber

LOOKING like a man from Mars, Lt. Col. Emilio Herrera demonstrated the feasibility of his stratosphere flying suit in an impressive test of man and equipment. Simulating conditions he expects to find on his proposed stratosphere flight, he remained in an airless chamber at a temperature of 70 degrees below zero for a period of more than two and a half hours.

His special suit was equipped with a device for maintaining atmospheric pressure and a generator and



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**The Role of Balloons in the
Future Development of Space Tourism**

J. López-Urdiales

Collège des Ingénieurs, Paris, France

**53rd International Astronautical Congress
The World Space Congress - 2002
10–19 Oct 2002 / Houston, Texas**

WHERE IS NEAR-SPACE?

Between 20km and 100km

Above controlled airspace and Concorde

Below satellites

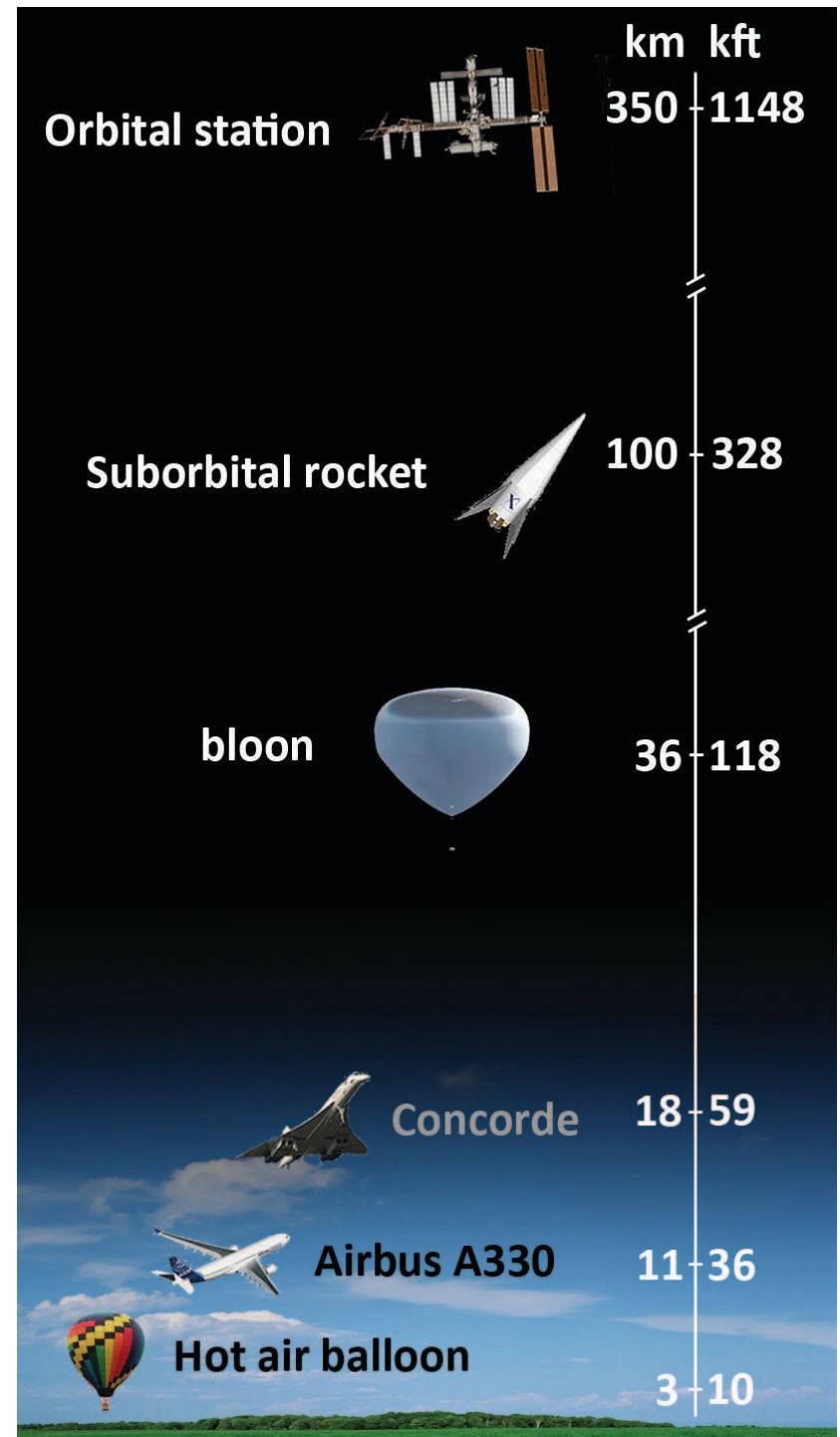
Where shooting stars shine

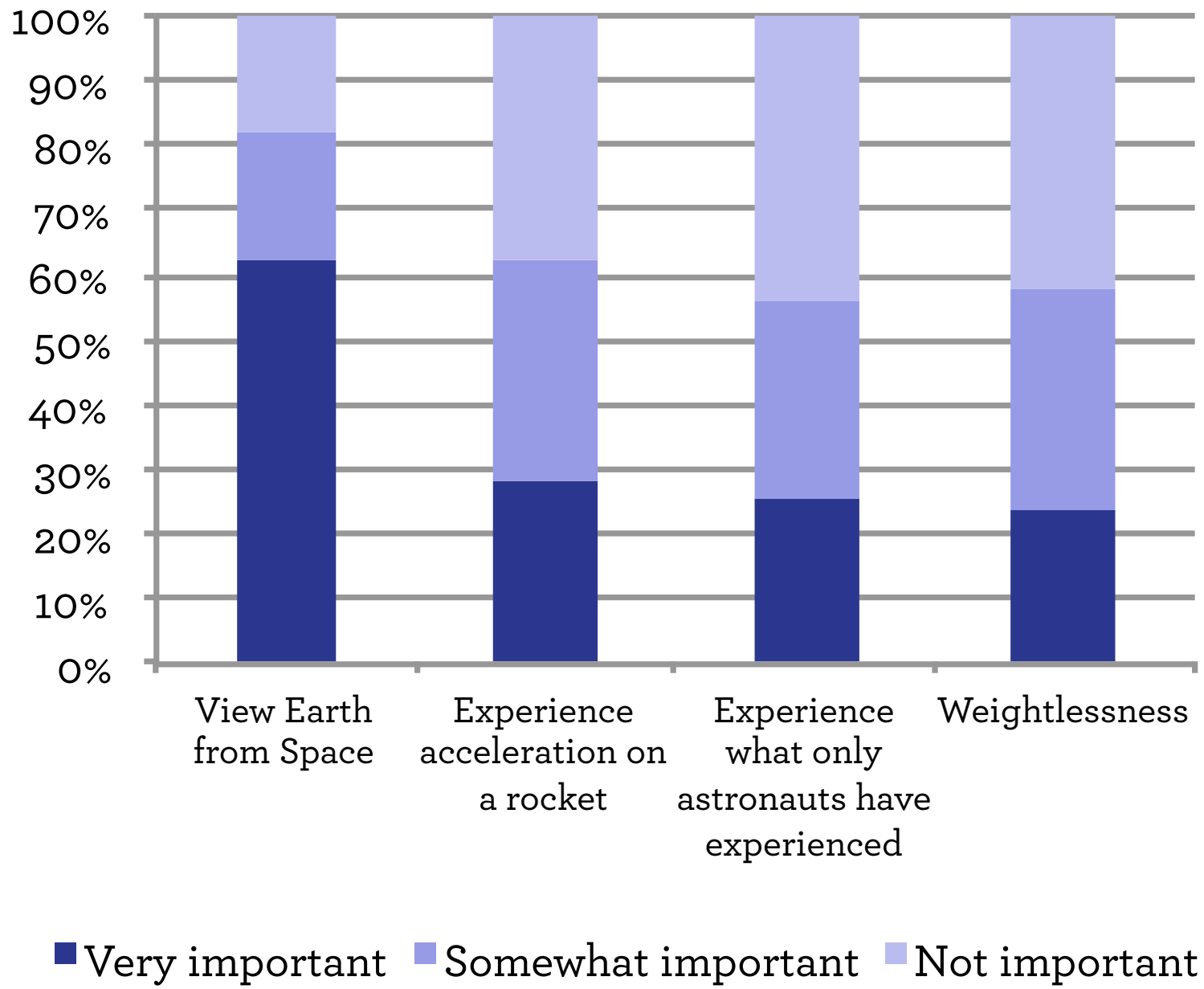
Above 99% of the mass of the atmosphere

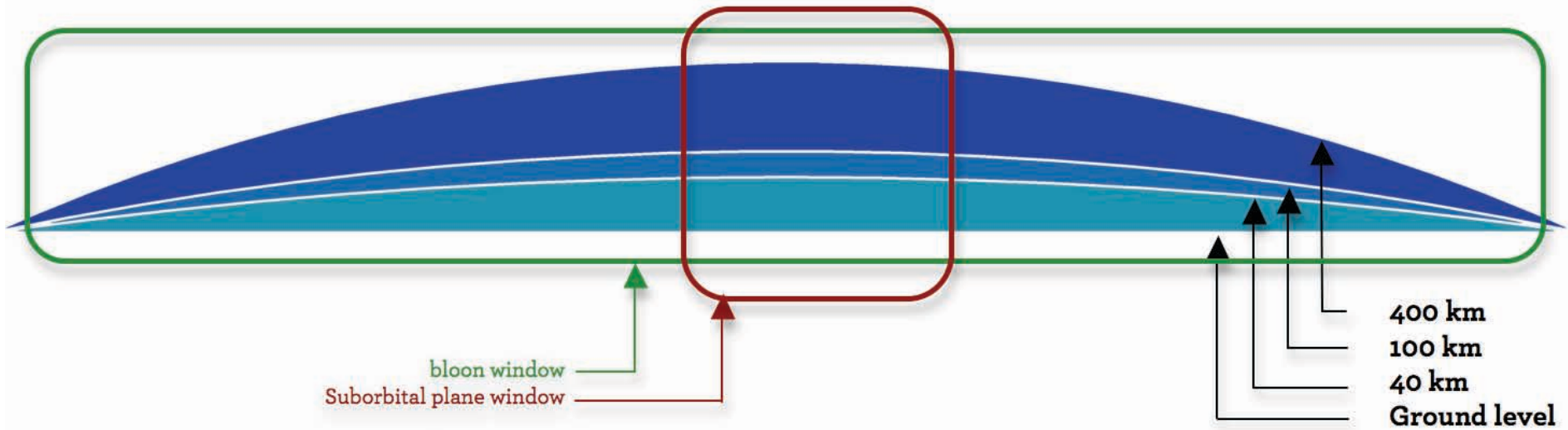
Where the sky is always black

Where stars blaze day and night

Where the ozone lives







BLOON IS THE SIMPLEST COMMERCIAL SYSTEM FOR NEAR-SPACE TOURISM

- In zero2infinity's bloon travelers will enjoy a 2 hour view beyond the blue skies into the blackness of Space inside a wide-windowed pressurized pod lifted by a safe and tested helium balloon
- It's the smart, scalable, environmentally-conscious and ITAR-free solution to Space Tourism
- First human flight expected in 2014
- First commercial flight expected in 2015

*Real image of a prototype test flight microbloon 2.0
November 2012, León (Spain) - 32km*

BLOON'S FLIGHT CYCLE

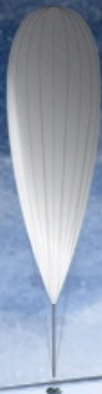
2) CRUISE PHASE [2 hours]

At an altitude range from 30 to 36 km.



1) Ascent phase [2 hours]

Ascent from the Earth's surface to an altitude close to 36 km.



3) DESCENT PHASE [45 minutes]

After separation from the balloon, the pod free falls for a few seconds. The sail vents helium and lands nearby, where it is picked up for recycling.



4) LANDING PHASE [30 minutes]

Parafoil deployment, guided descent to the landing area, and final touchdown with vented airbags.

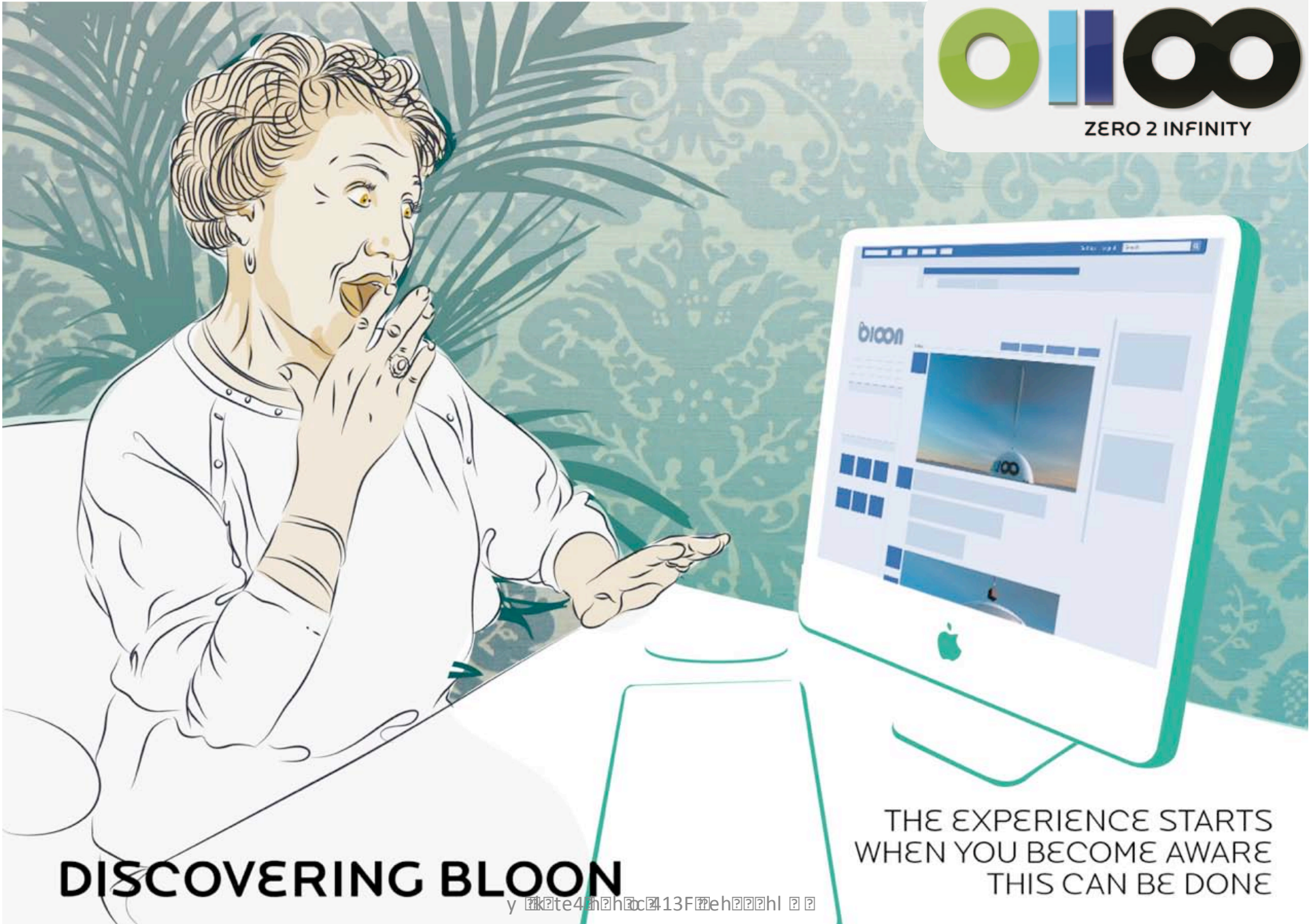


R&D is done, bloon is protected by World patent PCT (PCT/EP2009/065135)

THE EXPERIENCE IS DESIGNED FOR ENLIGHTENMENT, IN A SAFE AND TRULY COMFORTABLE ENVIRONMENT



ZERO 2 INFINITY



DISCOVERING BLOON

THE EXPERIENCE STARTS
WHEN YOU BECOME AWARE
THIS CAN BE DONE

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ZERO 2 INFINITY



MEETING THE TRAVEL DESIGNER

THE TRAVEL AGENT WILL GET ALL THE INFORMATION FROM YOU SO THAT THE EXPERIENCE WILL BE CUSTOMIZED



ZERO 2 INFINITY

blooo

blooo

CHARITY EVENT TO LAUNCH BLOON

ANNOUNCE OF THE START OF COMMERCIAL
OPERATIONS AT NGO TO RAISE AWARENESS &
FUNDS FOR THE WELL BEING OF CHILDREN

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THE NEAR-SPACE FLIGHT IS GETTING CLOSER

LANDING IN A WELL CONNECTED
CAPITAL NEARBY THE LAUNCH BASE





ZERO 2 INFINITY

ROAD TRIP

ENVIRONMENTALLY FRIENDLY VEHICLES
WILL TAKE YOU DIRECTLY FROM THE
AIRPORT TO THE LAUNCH BASE



SLOW FOOD AT THE OBSERVATORY

RELAXED CHAT ON THE SCIENCE
THAT WILL BE DONE
ON YOUR FLIGHT



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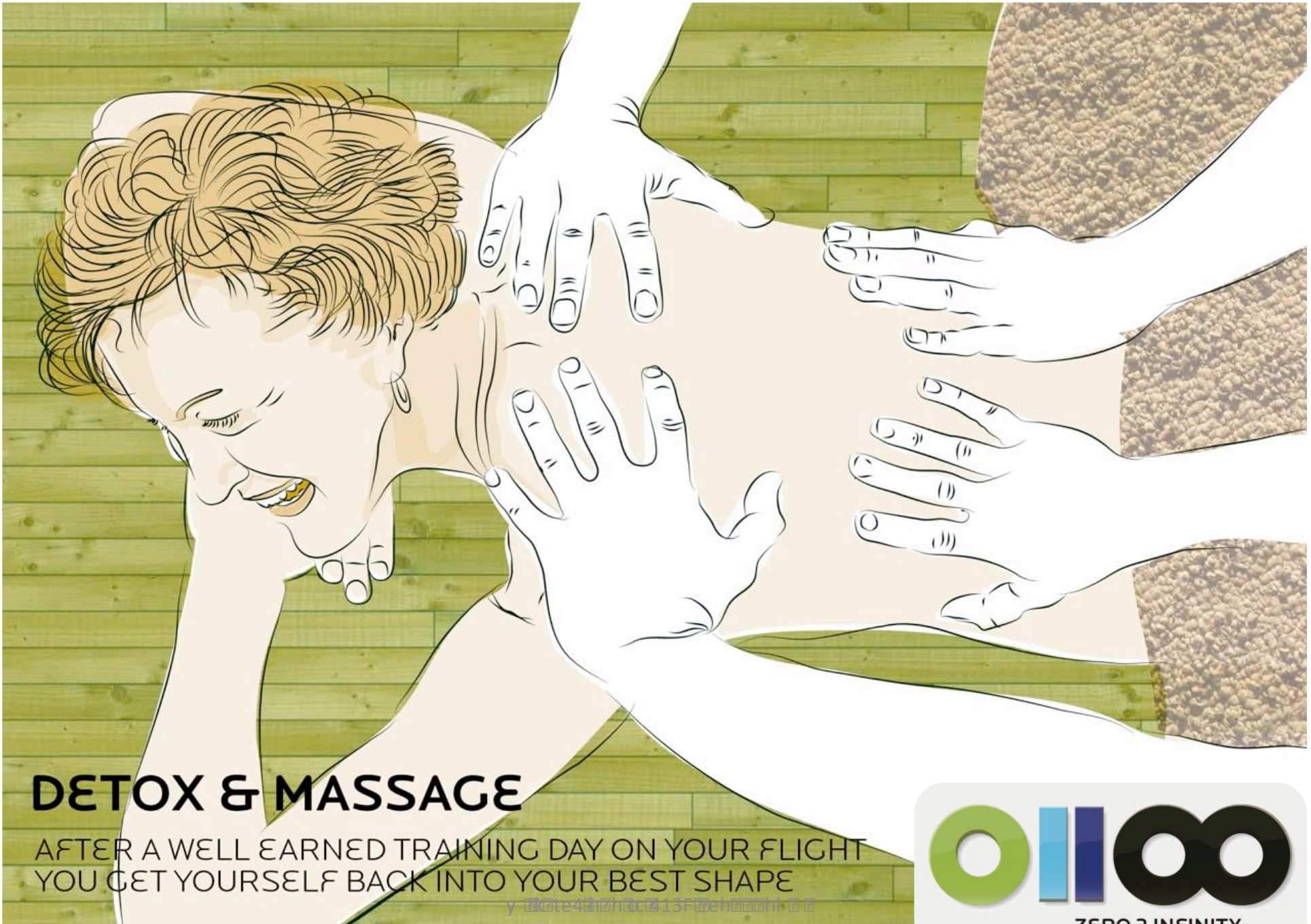
ZERO 2 INFINITY



**THE DAY
COMES TO AN END**

INSIDE YOUR DOME A SEMICIRCULAR DOOR IS
OPEN TO SLEEP UNDER THE STARRY SKY

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DETOX & MASSAGE

AFTER A WELL EARNED TRAINING DAY ON YOUR FLIGHT
YOU GET YOURSELF BACK INTO YOUR BEST SHAPE

[y @ate4hch3c7413Facebook@h3i 0/0](#)



08:30 pm

13 December 2013



TO BED AT SUNSET

TUNING YOURSELF TO THE TIME OF THE PLANETS IS CRUCIAL
TO BETTER ENJOY YOUR NEAR-SPACE EXPERIENCE

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YOU LIFT OFF STILL AT NIGHT

YOU WILL GET TO SEE THE DAY UNRAVELING AND MORE STARS THAN EVER IN YOUR LIFE

YOU ARE RIDING IN A POD THAT IS LIFTED BY A HELIUM BALLOON

THERE ARE ABSOLUTELY NO EMISSIONS, NO POLLUTION, NO NOISE

THE EARTH SLEEPS

SOARING INTO THE SKY



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DAWN IN NEAR-SPACE

YOUR FIRST DAWN FROM OUTSIDE MOST OF THE ATMOSPHERE

THE COLOURS ARE INDESCRIBABLE AND THE CURVATURE OF
THE EARTH IS VISIBLE

A FIELD OF VIEW FROM PARIS TO ROME



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08:15 am

14 December 2013



YOU WILL ENJOY YOUR
FAVORITE MEAL WHILE FLYING
2 HOURS AT 3 TIMES THE
CRUISING ALTITUDE OF AN
AIRLINER

BREAKFAST WITH THE STARS

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BACK ON MOTHER EARTH

THE DESCENT IS AS
GENTLE AS JOURNEY UP

THE WELCOME TEAM WILL
BE WAITING FOR YOU FOR A
DEBRIEFING SESSION IN A
PORTABLE TENT

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ZERO 2 INFINITY



YOU WILL SEE A VIDEO OF THE NEAR-SPACE
FLIGHT ON A LARGE CYLINDRICAL SCREEN

YOU AND YOUR BELONGINGS WILL BE TAKEN
BACK TO THE CLOSEST AIRPORT

WE HOPE TO SEE YOU IN THE NEXT FUND-
RAISING EVENT TO SHARE YOUR MEMORIES
WITH OTHER TRAVELERS!

IT IS NOT THE END

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NEAR SPACE ALLOWS YOU TO ITERATE FAST AND SCALE ACCORDINGLY

2009-2010

2010-2012

2013-2014

Starting in 2014



nanobloon 1.0 - November 2009 - 32km



microbloon 1.0 - October 2010 - 24km



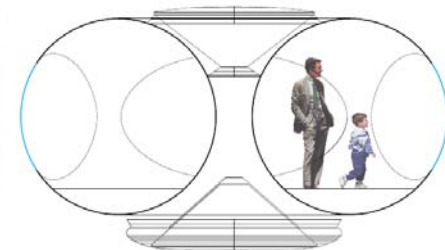
nanobloon 2.0 - June 2010 - 33km



microbloon 2.0 - May 2012



minibloon 1.0 - our first crewed vehicle,



R&D is already completed, bloon is protected by World patent PCT (PCT/EP2009/065135)

FAA predicts space tourism will be \$1 billion industry by 2022

Official expects commercial ventures to hit billion-dollar mark in a decade

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STORY SHUFFLE



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Month in Space: August 2012

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By Irene Klotz

REUTERS

updated 3/21/2012 3:25:35 AM ET

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CAPE CANAVERAL, Fla. — The Obama administration is preparing for a space tourism industry that is expected to be worth \$1 billion in 10 years, the head of the Federal Aviation Administration's commercial space office said Tuesday.

Rocket planes and spaceships to carry passengers beyond the atmosphere, similar to the suborbital hops taken by Mercury astronauts Alan Shepard and Virgil "Gus" Grissom in 1961, are being built and tested, with commercial flight services targeted to begin in 2013 or 2014.

"Based on market studies, we expect to see this type of activity result in a \$1 billion industry within the next 10 years," George Nield, associate administrator for the FAA's Office of Commercial Space Transportation, told the House Subcommittee on Space and Aeronautics.



FAA file

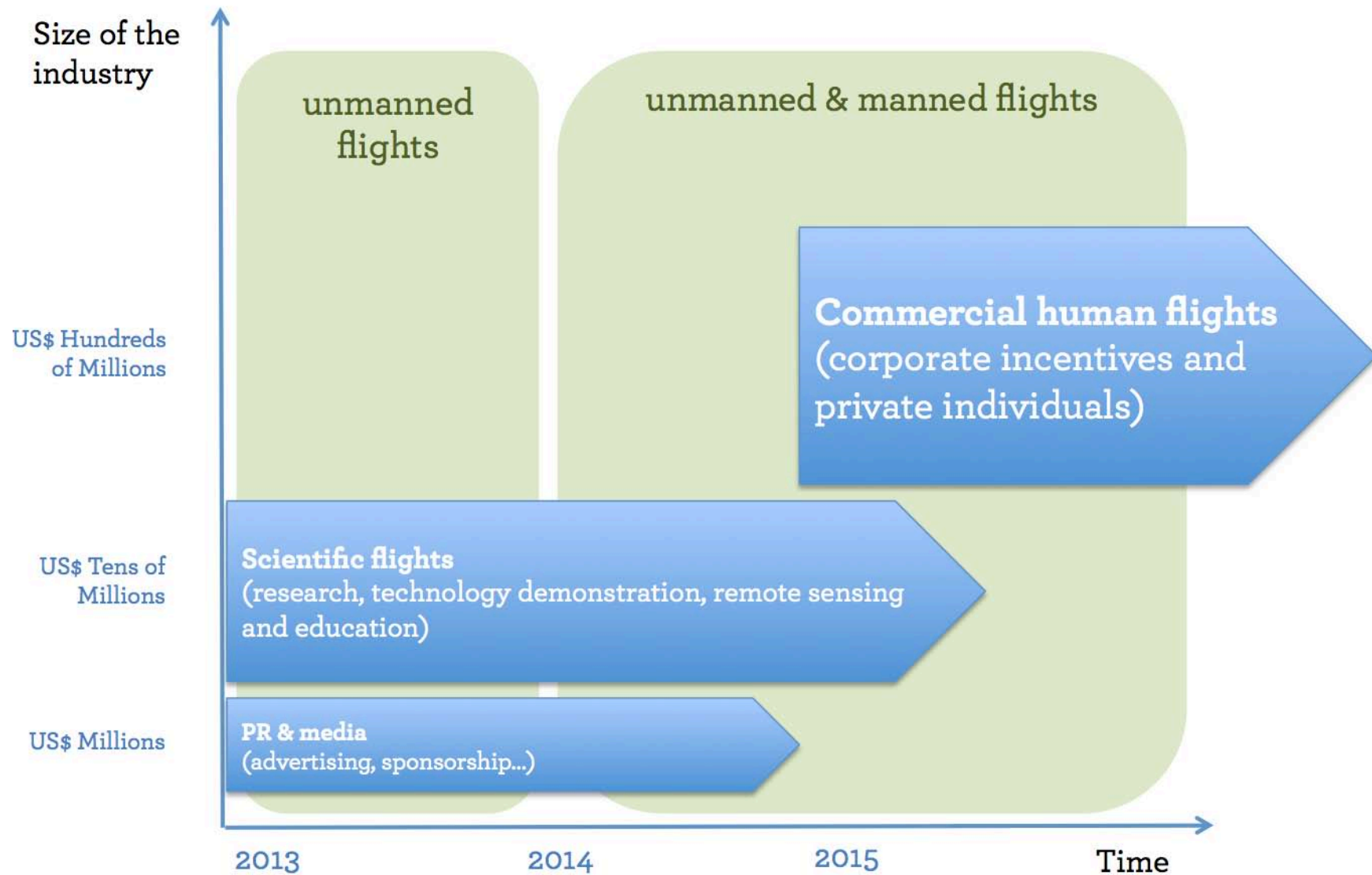
George Nield, the FAA's associate administrator for commercial space transportation, pays a visit to the SpaceShipOne rocket plane hanging in the National Air and Space Museum. In 2004, SpaceShipOne became the first privately developed craft to reach outer space.

Space news from NBCNews.com

Here's how to



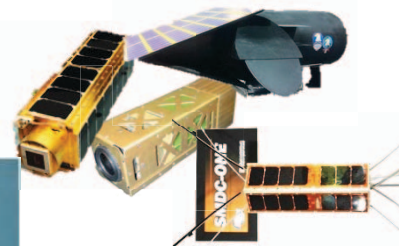
IT IS NOT ONLY SPACE TOURISM... NEAR SPACE IS ALREADY SERVICING OTHER MARKETS



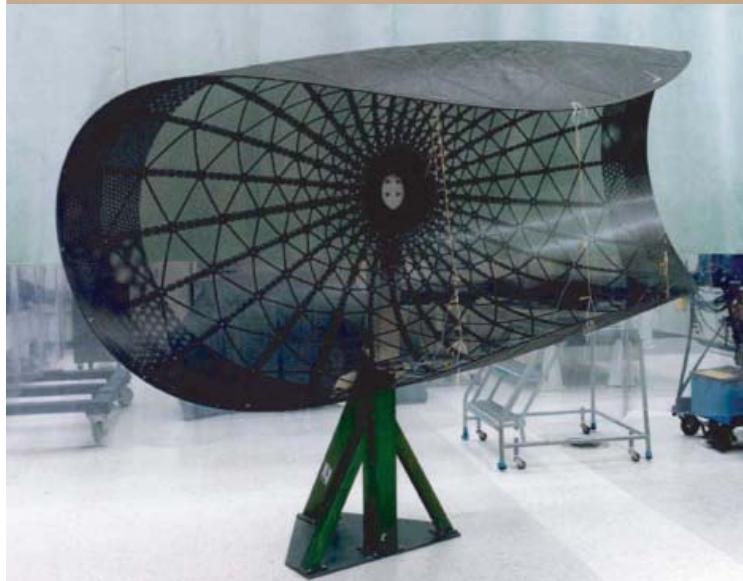
THE SMART AND LOW COST WAY TO TEST IT BEFORE (OR INSTEAD OF) SENDING IT HIGHER



drop-testing interplanetary parachutes



testing nanosats on balloons



Solar panels, antennae, life support systems, fuel cells, cameras, sensors, telescopes...

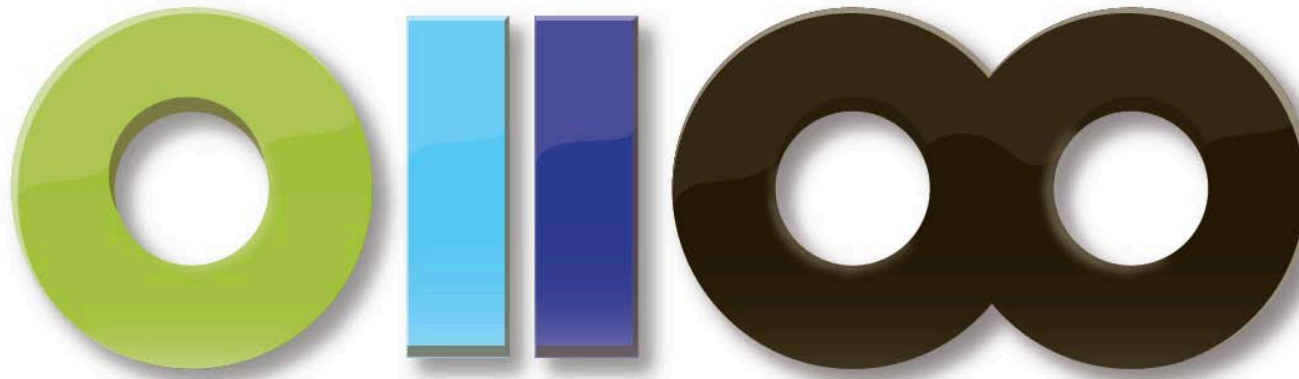


EDUCATIONAL PROJECTS ARE KEY



zero2infinity is working on an educational project, to fly high school and university students' experiments, involve them hands-on, invite them to the launch of their payload and stimulate their interest in STEM.

Ultimately, the goal is to fly the students and the teachers themselves for a real hands-on experience of Space.



ZERO 2 INFINITY

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