

# NEAR-SPACE IS THE ULTIMATE DESTINATION



# BLOON'S VALUE PROPOSITION

# ZERO

- $\rightarrow$  Emissions (it's green by design, no need to plant trees)
- $\rightarrow$  Explosives (we use batteries and inert gas)
- → Environmental impact (no noise, no pollution, no infrastructure)
- → Motion sickness (no need for sustained extreme accelerations)
- → Strenuous training (just relax and enjoy)
- → Medical checkups (you are already fit to fly)

# INFINITELY

- → Customizable experience (for private use or for sponsoring companies)
- → Peaceful (it's the most silent flying machine ever)
- → Safe (it's our first priority)
- → Proven technology (all components have an excellent track record)
- $\rightarrow$  Wider appeal (anybody can fly, from children to seniors)
- → Private (no passenger list)
- $\rightarrow$  Cost-effective (the best-value near-space encounter)
- → Friendly (our expert pilots will brief you and explain all that happens before, during and after the flight)

# WE ARE ABOUT TO BLOON...

Our ship will soar through the ozone layer and beyond: measuring it, caring for it... and with no emissions whatsoever.

Imagine you are flying above 99.5% of the mass of the atmosphere, seeing it shine bluish and thin below. Imagine the most amazing views of our planet among the stars and Sun blazing day and night against the blackness of space.

Now stop imagining

Come bloon with us!

TWO (2) PROFESSIONAL PILOTS will take you on a once-in-a-lifetime flight that will be one of the most amazing and eye-opening experiences you will ever have, all in a safe and harmonious way, and they will brief you on all that happens throughout the entire flight.

# VENTING PHASE

Venting of the gas to descend to the landing area. (1 hour)

#### •

Fly 36 km (118,000 ft) high, twice the Concorde's cruise altitude. (2 hours)

**CRUISE PHASE** 

### ASCENT PHASE

Ascent from the Earth's surface to an altitude around 36 km (118,000 ft). (1 hour)

LAUNCH PHASE

Countdown and vertical lift-off. (10 min)

### PRE-FLIGHT

Preparation of the launch site and bloon vehicle. Boarding. (3 hours 45 min)

View from an uninhabited test vehicle flying at an altitude of 27 km. 11:30am (CET), October 17th 2009, Huesca (Spain)

Credits: zero2infinity and 12 aerospace engineering students from ETSEIAT.



# SAIL SEPARATION & PARAFOIL DEPLOYMENT

Separation of the sail. Optional zero, lunar and martian gravity period. (2 min) Parafoil deployment. (10 min) The sail is recovered and recycled.

#### DESCENT & LANDING

Guided descent to one of the pre-defined landing spots in the landing area. (30 min) Touch-down and landing. (10 min)

#### POST-LANDING PHASE

Recovery of the pod and sail. Return to base. Receive high definition 3D video of the flight. (2 to 4 hours)

# FLIGHT CYCLE

For over 2 hours, you will share an unparalleled view of our world.

It's a gentle experience, no need to rush.

Listen to your mp3s, have dinner, sip your favorite drink, or join the mile high club. It's your choice.

You will see our planet in her true glory, knowing that your trip not only did no harm, but helped protect her. The bloon will show you a totally new way of being one with the Earth.

FIELD OF VIEW:

1,400 km (870 miles)

That is. Rome to Paris

from the same window

It's calm, it's quiet, it's private. It's bloon.

PARIS

ROME

# THE RIDE IS GENTLE, LUXURIOUS AND COMFORTABLE BLOON IS **SAFE** AND **GREEN** BY DESIGN

Your safety is our major priority and we won't allow you to fly until we can assure that our system is certified to be safe. Once the near-space ship is operating it will be as safe as a classic hot air balloon flight and as comfortable as a private jet.

## **BLOON BY FIGURES**

- $\rightarrow$  Travelers: 4.
- → Crew: 2 pilots.
- $\rightarrow$  Options for arranging the space: open 4 or 2+2 isolated.
- → Maximum altitude: 40 km.
- → Nominal altitude: 36 km.
- $\rightarrow$  Height of the sail at nominal altitude: 96.5 m.
- $\rightarrow$  Diameter of the sail at nominal altitude: 129 m.
- $\rightarrow$  Pod diameter: 4.2 m.
- → In-flight information: displayed on each window.
- → Landing attenuation system: 8 vented airbags.
- $\rightarrow$  Recovery system: guided parafoil with redundant backup.

# SAFETY FEATURES

- → A light weight, helium balloon. No explosive or hazardous materials or systems.
- $\rightarrow$  No extreme flight conditions.
- → No extreme cabin conditions due to speed, acceleration or temperature.
- → 3 levels of redundancy on all safety systems, like on an airliner.



# **ENVIRONMENTAL IMPACT**

- $\rightarrow$  No environmentally harmful emissions during flight.
- $\rightarrow$  No noise impact.
- $\rightarrow$  No visual impact from large lifting and landing infrastructures.
- $\rightarrow$  Every flight takes along scientific equipment to care for the planet.



 Wider appeal, anybody can fly, from children to seniors
 Image: Constraint of the seniors

The technologies of stratospheric lighter-than-air gas balloons are well proven. Our team has decades of experience in this field. Moreover, as the system uses helium, an inert gas, and contains no explosive or other hazardous substances, the risk is reduced to a minimum. bloon's ascent through the atmosphere is graceful, pleasant and quiet.

If you can fly on an airliner, you can fly on bloon.

# LET'S BLOON SOON!

Fly to near-space with the safest technology. See the roundness of the world with your own eyes.

BLACK SKY, WHITE SUN, BLUE EARTH. SEE IT WITH YOUR OWN EYES.



DISCOVERING BLOON The experience starts when you become aware this can be done.



MEETING THE TRAVEL DESIGNER The travel agent will get all the information from you so that the experience will be customized.



CHARITY EVENT TO LAUNCH BLOON

Announcement of the start of commercial operations together with a leading NGO.



THE NEAR-SPACE FLIGHT IS GETTING CLOSER Landing in a well connected capital nearby the launch base.



**ROAD TRIP** Environmentally friendly vehicles will take you directly from the airport to the launch base.



YOUR ROOM IS READY Our warm staff will welcome you in harmony with the environment.



SLOW FOOD AT THE OBSERVATORY Relaxed chat on the science that will be done during your flight.

Quiet, mindful, calm... The Earth only smiles on those who treat her well. Feel her smile, see her continents and feel one with her. It's not about going away, it's about coming back. Board a bloon, change the world. For two hours you will share an unparalleled view of our world. As much about space as about time, our bloon includes both.



THE DAY COMES TO AN END Inside your dome a semicircular door is open to sleep under the starry sky.



TRAINING, DETOX & MASSAGE After a well-earned training day on your flight you get yourself back into your best shape.



TO BED AT SUNSET Tuning yourself to the time of the planet is crucial to better enjoy your near-space experience.



SOARING INTO THE SKY You lift off still at night. You will get to see the day unraveling and more stars than ever in your life. There are absolutely no emissions, no pollution, no noise. The Earth sleeps.



**DAWN IN NEAR-SPACE** Your first dawn from outside most of the atmosphere. The colors are indescribable and the curvature of the Earth is visible



BREAKFAST WITH THE STARS You will enjoy your favorite meal while flying 2 hours at 3 times the cruise altitude of an airliner.



BACK ON MOTHER EARTH The descent is as gentle as the journey up. The welcome team will be waiting for you for a debriefing session in a portable tent.



IT IS NOT THE END You will be given a video of your near-space flight and taken back to the closest airport. We hope to see you in the next event to share your memories with other travelers!





# FREQUENTLY ASKED QUESTIONS

## $1 \rightarrow OVERVIEW$

#### WHAT IS YOUR MOTIVATION TO PIONEER PRIVATE NEAR-SPACE FLIGHT?

To advance human experience beyond its current limits. Astronauts say seeing the Earth from space is life-changing, to see the vast curve of our home planet spread out below us puts everything into perspective. It is silent and still, grand and awe-inspiring. Space is part of our common future, and through it bloon will help awaken consciousness of the unique, fragile beauty of our planet.

#### WHEN WILL I BE ABLE TO FLY?

Sooner than you think. Early bookings could lift off as early as early as 2013 and at the latest in 2015. The exact date of your flight will be determined by both you and the extensive testing program currently underway to certify the system's safety.

#### WHY IS IT TAKING SO LONG?

New aircraft, new cars and other complex products often take years to come onstream. Our project is very innovative; to have it operative within three years is an amazing achievement. To us, it is not all that far away – well before the Olympics in Rio de Janeiro!. One thing is for sure: booking early is the best way to shorten the waiting time.

#### I'M CONFUSED, WHAT IS ZERO2INFINITY AND WHAT IS BLOON?

zero2infinity is the name of the mother company and bloon is her first project.

#### WHY HAS THIS NOT BEEN DONE BEFORE?

For many years people had flew to near-space in helium balloons until, in 1961, a modified inter-continental missile from the Soviet Union launched Yuri Gagarin into orbit. All the advanced ballooning teams on both sides of the iron courtain were then disbanded or put to work on missile-based access to space. The military usefulness of near-space ballooning has not been demonstrated, so there has been little in the way of government funding for innovation in this field. (For further information we suggest the excellent book *The Pre-Astronauts: Manned Ballooning to the Edge of Space, US Naval Institute Press.*)

#### WILL THIS BE THE MOST INCREDIBLE EXPERIENCE OF MY LIFE?

We will make every effort to make it as amazing as we can. But let's be very clear on this: life for humans on planet Earth is so amazingly complex and rich -- your child's birth, your mom's cooking, the Alhambra in sunset, among much else. Rest assured that we will work for it to be, at the very least, among the most incredible experiences of your life!

#### WILL YOU MAKE PUBLIC LISTS OF TRAVELERS?

Discretion is important to us. From the moment you contact us we will treat you and all your personal information with the utmost care. No information will be provided about who makes the reservations, what tailored requirements they ask for, or when they fly. We dearly value our customers' privacy. On the other hand, if you are a corporate customer, or want to use your flight to obtain media exposure, this can be discussed during the reservation process.

#### WHERE DOES THE ATMOSPHERE END?

The Earth's atmosphere reaches well beyond 'low earth orbit', the altitude where the International Space Station, Shenzhou, the Shuttle and Soyuz orbit. These vehicles have to fire their rockets periodically not to fall because of the atmospheric drag. Although traces of air can still be measured even as high as at altitudes of 10,000km, at an altitude of 36km you will have ventured beyond some 99.5% of the mass of the atmosphere.

#### WHO IS YOUR DIRECT COMPETITION?

It depends on how you define the industry. In terms of sustainable near-space experiences we are probably the first. Other market offerings that propose a somewhat similar view of Earth are more extreme in their health and training requirements. Although we do not climb as high as others do, our experience is the only one that is open to all ages and medical conditions, effectively widening the market.

## $\mathsf{2} \to \mathsf{FLIGHT} \ \mathsf{EXPERIENCE}$

#### WHY ARE YOU USING A BALLOON?

Three reasons: safety, experience, and environmental impact. The oldest type of flying machine known, the balloon, is inherently safer than other forms of high-altitude flight. By using a pod with a balloon we create a softer and more pleasant journey. A balloon also allows us to float and view the Earth for hours, and we will provide you with all the time you need to fully enjoy your epic voyage. In the end, though, it is not enough just to provide amazing views of Earth. Thanks to our balloon system, we do it with zero emissions.

#### WHERE WILL THE FLIGHT LIFT OFF FROM?

The system has been designed to operate from almost anywhere. There are a handful of very attractive worldwide locations under study. Selection criteria include avoiding cloudy areas or dull landscapes, while at the same time minimizing logistical problems such as extreme weather conditions. The locations will be disclosed once agreements are reached with the local regulatory authorities. The system can be made to fly from any other location if requested by the customer. Please ask us if you have a particular requirement and we will let you know the conditions.

#### WHAT WILL WE SEE?

You will see our home planet, in all her splendor. From your seat you will look through a supersized window from which you will see the curvature of the Earth, the black starry sky in daylight, and the thin blue layer of the atmosphere that protects us from the Cosmos. You will see that the world is not flat and that borders do not really exist. You will see it all reflected in your traveling partner's eyes.

#### WILL WE FLOAT DURING THE FLIGHT?

The pod that will hold the travelers is very versatile and can offer up to 25 seconds of zero, lunar and martian gravity. It is your choice to include floating as part of your tailored bloon experience. Our flight profile will let you select different levels of gravity. Zero gravity can be very exciting, especially in small doses. And that is why bloon offers it as an option. However, it is not directly related to space travel. You can feel it independently of altitude. There is no altitude at which gravity is "too low" to be felt. Astronauts often float in Space because their vehicle is actually falling, not because they are necessarily so far away. If you want to try a longer dose of weightlessness we can put you in touch with other providers. Floating can be a lot of fun. But we are convinced that seeing our home planet in space is in a different league altogether.

#### WHAT DO YOU CONSIDER SPACE?

Space is an arbitrary designation: our planet, and we ourselves, are all part of the Cosmos. Some consider the boundary between Earth and orbital-space to be the 'Karman Line'; set at 100 km of altitude (partly because it is a round number and partly because it is the approximate altitude at which an object will stay in orbit). Between orbital-space and the maximum altitudes for airplane flight there is a beautiful region that is often referred to as near-space. zero2infinity's bloon, as well as suborbital rocket vehicles, fly inside near-space. Near-space is the place where looking out the window you see Earth's curved horizon, the thin blueness of the atmosphere and a black sky in daylight. This experience becomes possible just above 30 km.

#### HOW MANY PEOPLE WILL TRAVEL ON EACH JOURNEY?

Four travelers and two pilots. Each group of two can have their own private space. We respect the importance of the moment and groups can enjoy the time with their loved ones.

#### HOW WILL MY SEAT NUMBER BE ASSIGNED?

It's up to you. If you prefer to be among the first to fly you should indicate that while making the reservation and we will do our best to allocate your flight as soon as we start (on a first-come, first-served basis). However if you would rather fly once the system has already flown, say, 200 travelers, that can also be accommodated while we process your reservation.

#### CAN I CHOOSE MY FELLOW TRAVELERS?

We are convinced that the most valuable experiences in life are shared. That is why our system, while providing the best individual comfort possible, has been crafted to facilitate sharing of the experience. The oversized windows allow for two people to simultaneously look at the Earth below with a clear field of view. The cabin space can be arranged to provide privacy to a party of four travelers or to two parties of two travelers.

#### CAN WE BRING OUR CHILDREN TO FLY?

It is highly recommended. The experience will be a truly memorable one for children and will undoubtly expand their perception of our world and their place on it. Kids younger than 16 will have to be accompanied by an adult.

# FREQUENTLY ASKED QUESTIONS

## $\mathbf{3} \rightarrow \mathbf{HEALTH} \text{ AND } \mathbf{SAFETY}$

#### IS IT SAFE?

Your safety is our top priority: if it were not, we wouldn't be allowed to fly commercially.

#### WHY ARE YOU USING A BALLOON INSTEAD OF A ROCKET?

For reasons of safety, experience and environmental impact. Firstly, winged rockets are not ideal for the stress of reentering the Earth's atmosphere. By using a pod with a balloon we create a more pleasant journey. Second, a balloon allows us to float and view the Earth for hours. This is an experience to savor, not to rush. We will provide you the time to fully enjoy your epic voyage. Finally, and simply, most rockets do terrible damage to the atmosphere. While we want to push human experience to its farthest frontiers, and provide amazing views of Earth, we do not want to cause any environmental damage in the process.

#### WHAT MEDICAL CONDITIONS COULD EXCLUDE US FROM THE FLIGHT?

If you can fly on an airliner you can probably fly with us. There are no extra medical requirements, tests or related costs. The nature of the bloon flight, with its gentle trajectory and comfortable cabin conditions, guarantees that almost anybody can fly. A report from your physician will be needed as well as a simple medical checkup to be sure that you and your fellow bloon travelers can enjoy the flight safely.

#### DO YOU HAVE AGE OR HEALTH LIMITATIONS?

Travelers must be in good physical condition and children under 16 must be accompanied by a parent or guardian. Thanks to our unique expertise we have managed to reduce this limitation to the level of general commercial aviation requirements. Due to the graceful nature of the bloon's flight, travelers can complete all of their training in less than one day.

#### WHAT SORT OF TRAINING WILL BE REQUIRED?

A series of activities will allow travelers to get acquainted with the scientific and cultural aspects of the experience in order to make the most of it. A two-hour session will be held on the eve of the flight in order to familiarize the travelers with the security systems of the bloon. If you want to follow real astronaut training (including Russian lessons and Siberian survival training) we can put you in contact with other providers.

#### ARE THERE ANY EXPLOSIVES ON BOARD THE SYSTEM?

The system does not hold any hazardous substances, and travelers are forbidden to bring any on board.

## 4 → RESERVING YOUR PLACE

#### HOW CAN I MAKE A RESERVATION?

Simple: you only have to provide us with your contact details, ideal flight dates and a full or partial deposit. You will find our contact information in this document and on our webpage: www.inbloon.com. Contact us and we will be delighted to arrange the best possible experience for you and your traveling companions.

#### WHAT IS THE FORM OF PAYMENT FOR THE ESCROW DEPOSIT?

It is necessary to make a wire transfer to our escrow account in euros (we are currently working on other methods of payment such as credit cards). If your base currency is not the euro, we can readily provide currency exchange insurance at no cost to the traveler.

#### HOW DO YOU HANDLE CLIENT DEPOSITS?

Client deposits will be held in escrow in a trusted financial entity and in strict confidence. This means that the deposited sum does not 'belong' to zero2infinity until the flight date has been fixed. Reservations can be canceled and deposits recovered from escrow (with a minor processing fee) at any time before the flight date is fixed.

#### WHAT IS INCLUDED IN THE TICKET?

The ticket includes: the flight, a scientific briefing about space, safety training, a two-night night stay with full board in a nearby high-end resort and transportation on the day of the flight. A personal video with your experience will be also produced.

#### CAN I TAILOR MY BLOON EXPERIENCE?

Yes, indeed. Every bloon flight is different and every bloon traveler too. We would be delighted to hear your ideas to make the most of your experience. Some of the options that can be provided upon request are:

- Fly from/to a specific location
- Bring a telescope
- Watch a solar eclipse
- Branding (for corporate clients) of the pod and the launch dome
- Flying with a retired professional astronaut
- Decorate the cabin and surface of the bloon
- Enjoy a \*\*\* Michelin menu
- Booking the whole pod for only 2 people for enhanced privacy
- Training of high-altitude balloon piloting

## $5 \rightarrow PARTNERS$

#### WHAT IS ZERO2INFINITY'S STANCE ON CORPORATE ETHICS?

We believe the aerospace industry needs a fresh face. Ethics are core to our founding and operational values. You can expect transparency, social responsibility and trust in your dealings with us.

#### I AM A SCIENTIST. HOW DO I WORK WITH ZERO2INFINITY?

Do you have an exciting scientific experiment idea to fly on bloon? At zero2infinity we are eager to hear your ideas on how to make the most of bloon as a platform for scientific discovery. Please get in touch with us by email and we will provide you with the Interface Definition Document (IDD) and the Payload Accomodation Handbook (PAH) with all you need to know to lift your idea to near-space.

#### I AM A TRAVEL AGENT. HOW DO I WORK WITH ZERO2INFINITY?

Travel agents and representatives are a critical part of our offering. We see you as partners. You have provided countless life experiences to numerous customers throughout the years. We want to help you understand the highlights of our offering and why it is a truly unique journey. Please contact us via email or phone.

#### I AM A SUPPLIER. HOW DO I WORK WITH ZERO2INFINITY?

We are always open to expanding our network of partners and suppliers that share our values and our standards of excellence. If you want your expertise to fly on the bloon, we will be pleased to hear from you.

# ARE YOU PLANNING TO EMBARK ON OTHER AEROSPACE ACTIVITIES?

We plan to fill persistent gaps in the aerospace industry. For various reasons some products or capabilities remain absent, often because they do not have immediate government or defense applications. Our goal is to fill this gap with the same environmentally friendly perspective with which we are addressing near-space flight.

# ZERO2INFINITY

Based in Barcelona, Spain, zero2infinity's mission is to raise our planetary consciousness, developing zero-environmental impact flying solutions. Our first product, bloon, will offer near-space experiences. Growing up with a father dedicated to Space research, along with hearing astronauts' descriptions of how transformative their travels were, sparked in the Founder of zero2infinity, José Mariano, a life-long curiosity and interest in Space technology.

Wondering the best way to inspire all of us to protect this planet we share, for many years he studied what it would take to offer the same experience to the rest of us, in a safe and harmonious way. Among all feasible options, he discovered that balloon travel is the safest and most robust alternative, and was the most aligned with his desire to help protect our planet. Thus the idea of bloon was born.

zero2infinity's bloon is uplifting ethically as it is physically. Our whole system is designed to help know and preserve our planet. We believe we would fail in our mission if we did otherwise.

#### "WE WILL ONLY LIVE IN THE STARS IF WE PROTECT OUR OWN EARTH FOR LONG ENOUGH SO THAT WE CAN DEVELOP THE MEANS TO GO THERE."

José Mariano López-Urdiales, zero2infinity Founder and CEO



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