

# Q&A (Frequently Asked Questions)

## **Who is behind the project?**

Due to understanding the complexities of this challenging project after several years of closely studying its viability, we have chosen the best team of qualified professionals which will allow us to tackle each problem head on as it arises, and that overall everything we develop is of practical use for the needs of future generations.

Thanks to industry experts such as scientists, architects and specialists in human relations, we have been able to convert this dream into reality.

Besides, as we are aware that this project would not come cheaply, we have also secured financial backing from an international group of investors to support our highly motivated team in their endeavors. 100% of the investments made come from private investors.

## **Investments / Sponsors**

So far, the total investment amount adds up to 2.9 million euros.

## **Where does this entrepreneurial idea come from and what is its objective?**

Bearing in mind that we have recently enjoyed the 50th anniversary of the first man landing on the moon for the very first time, we must remember that this milestone was enough to make us imagine that life in space beyond 2000 would be commonplace.

David Ceballos, the founder of Astroland, has dreamed since he was a child about humans first steps to Mars. His life path took him into the housing industry, where he was able to further develop his ideas of what the habitats of the future would be like.

More inspiration came from working together with the Ministry of Culture and Heritage on a daily basis, which also includes the network of caves where Astroland will be operating.

The tipping point came whilst reading a scientific article which argued that the

most compatible place for human life on Mars were large caves located on its surface. This was the trigger which inspired him to work so diligently on this amazing project.

### **What, if any, similar projects exist worldwide?**

There is a project promoted by NASA called Hi-Seas, which involves a period of isolation in a station similar to ours, located in a volcano crater in Hawaii. The European Space Agency also has a similar initiative called Pangaea, in which Pedro Duque, Spanish astronaut and current government minister of Science, Innovation and Universities is involved, and focuses his field of research in cave systems. Like our Agency, Pangaea's objective is the testing of the technologies and skills necessary to survive in such extreme environments as Mars.

What sets Astroland apart from the rest is the fact that this experience is NOT only for sector professionals, giving opportunity to those who want to experience, today, what the first settlers on Mars will have to go through.

### **What goals are set for 2019 in terms of sales, sponsors, investors, projects, etc.?**

After successfully accomplished several BETA missions, we have finally carried out our first official mission which has been a great success. Having had the privilege of sharing this experience with top notch relevant participants in each of their corresponding areas of expertise. This has given us the chance of further improvement.

Ares Station is the name of the station we have developed within one of the large caves, which includes a laboratory 1.5 kilometers long and 50 meters high, thus forming an unparalleled habitat for the sole purpose of carrying out experiments for scientific purposes. In this phase we are also involving different technology-based companies to integrate and test innovative products and services.

We are aware of the potential for publicity this initiative has, resulting in many brands willing to link their name to our activity as a technological spearhead.

### **What support and backing do you have?**

So far, the Government of Cantabria, Ayto. Santander, EOI (Industrial Organization School), Banco Santander, and ESNE university have all collaborated. and we are in the process of closing more agreements (however until they become official, we cannot reveal more details). Due to the scope of the project, we hope to include as many collaborators as possibly needed to cover the many fields of development which would be very it difficult for us otherwise..

### **Why Cantabria?**

Firstly, many of the team are Cantabrian, born and bred. Cantabria also boasts a vast network of more than 4000 caves, 200 of which are in the area where we operate, and 10 of which are part of the Common Heritage of Mankind.

### **Why in a cave?**

According to the scientific consensus, any permanent human colony on Mars must be installed in the lava tubes to protect us from the hostile Martian environment. The lack of atmosphere leaves us at the mercy of cosmic rays, extremely low temperatures, impenetrable dust storms and the absence of liquid water, all of which are lethal to human beings. We will avoid these problems by building our station below ground.

Not only that, but there is also the astrobiologists dream of finding some form of life in these cavities, which is another reason why the lava tubes arouse a lot of scientific interest and need for research.

### **What are the main characteristics of Ares Station (the cave)?**

Finding the right cave was not an easy task. After a lot of research, and caving to find the right morphology, size, access and adaptation to the project, we decided that our chosen cave was ideal for our activities. It has nearly perfect geographic features and can fit a cathedral without even touching the walls. It is a work of natural art that is hard to match.



## **What measures will be taken to reduce the human footprint in Ares Station?**

Here we have a practical example of one of the programs that we develop within the framework of Astroland. New answers must be found in order to overcome the challenges we will face on Mars, and as a first step we must ensure that the human impact is kept to a minimum at all points of the process. Therefore we plan on establishing a research program called Human Marks, where we will be able to develop technologies and skills which will minimize the impact of human activity in controlled environments.

The following preventative measures have been proposed:

Restricted Access

Archaeological report and monitoring by specialized team of archaeologists during all implantation processes within the cave, such as:

3D scans of cave

Beaconing of all sensitive areas

Definition people flow

Camera monitoring of the entire cavity

Online monitoring of exterior and interior environments

Analysis of all acquired data

Disinfection of all who enter the cave

Establishment of authorized personnel list for entry and define a maximum capacity

Use of air purifying equipment

Tracking and follow-up by experts with a view to raising possible improvement measures

The first manned missions to Mars will be for scientific purposes with a focus on retrieving data for an eventual permanent Martian human colony. Our goal here is to learn how to conserve delicate environments and improve processes ready for when the time comes.

### **How will it be marketed?**

Through our central reservation and international operators.

### **How much will it cost?**

The total price of the experience is €5,000 plus VAT.

Which includes the following:

26 days online training before the mission (Astroland virtual campus)

3 days of intensive training in Santander

4 days (3 nights) inside the Ares Station (cave)

1 last night (after leaving Ares Station) at a hotel in Santander with gala dinner, photocall and award ceremony.

### **Who is the target buyer?**

Anybody who wants to be part of a unique experience allowing them to see what life in the first Mars colony will be like.

### **What characteristics should the candidates have to be selected?**

Physical fitness and general good health condition is a must. There are various levels whereby a role is assigned taking into account the individuals qualities and physical capabilities. In a prior phase the candidates will be prepared both physically and psychologically to tackle the challenge.

### **What happens if an Astrolander wants to leave the mission one once inside?**

Each mission will be monitored 24/7 from our headquarters, the Astroland Space Center, composed of 5 pavilions in the Science and Technology Park of Cantabria. In order to be true to reality there will be an 8-minute communications



delay (the minimum between the Earth and Mars). From the Space Center, the mission controller gives the necessary orders and makes the appropriate decisions as the operation unfolds. In the event of a problem, various technicians and psychologists will be advising to ensure smoothness and safety is paramount. In the event that a participant wishes to leave Ares Station, first they will communicate directly to the Mission Captain within Ares, who will then decide, along with Mission Control, the best next steps, and any necessary measures to contain the risk, after closely evaluating the situation. As a last resort the emergency plan will be activated and specialized personnel will enter and proceed to evacuate the area.

## Application process

- **What do the physical and psychological tests for candidates (ASCANs) applying to Astroland involve?**

The ASCAN (candidates to become Astrolanders) must be in optimum physical shape for the success of the mission.

Once they are in the selection process, our psychology team will arrange an interview with one of our specialised psychologist upon whose diagnosis Astroland will approve or not the ASCAN's (Astroland Candidate) participation in the program.

Astroland reserves the right to refuse admission.

- **What issues could exclude people from being able to take part?**

Physical or psychological condition or disability, emotional distress. once again it will all be down to the resolution from the test run by our psychologist.

- **Are candidates (ASCANs) who have physical or mental disabilities able to participate?**

Astroland principles are clear against any form of discrimination. Astroland is committed to diversity and inclusion. We are an equal opportunity agency, (in fact some of our staff members have some levels of disability). However, having said that, the physical and mental requirements of the mission are by no means easy to overcome.

# Training

- **What does the comprehensive three week remote training programme involve?**

The following are the specific programs designed by our experts:

**1.- Mars Mind:** Which stands for **M**aximal **A**strolander **R**esources in **S**pace **M**ind Instruction and **N**eurological **D**evelopment:

The psychological part of the training where you will explore and test your own capabilities, endurance and resilience towards hostile environments and unexpected situations where you will have to submit your troubleshooting skills to heavy stress and develop new skills to be able to work under high pressure.

**2.-Mars XFit:** This area cover all issues regarding welfare,fitness and nutrition so that you will be in perfect health condition to take on your mission.

Our nutritionists will design a specific diet for you upon your medical record.

You should go on such a diet days before starting the experience.

You will be granted access to our Mars Xfit application where you will be able to choose the menu to your liking,including vegetarian, vegan, gluten or lactose free... options.So you can have a different menu every day if you wish.

This diet must be complemented by a workout routine (a set of specific exercises to get your body ready and in the best possible shape for the success of the mission).

You must do this on a daily basis as specified by our team of trainers,before and during the mission and also you will be advised to continue doing it for at least a week after the experience, and we also hope that you might want to implement some of the aspects into your daily life from now on,so as to keep as healthy as possible.

Obviously that will be entirely up to you but because this is a life changing experience,it is not uncommon that quite a few Astrolanders have been willing to do so after completing their corresponding mission.

**3.-Mars Team:** Your specific technical training based on your role, depending on which role you have been assigned (engineering,biology,psychology) you will be shown how to operate some devices, lab equipment,gadgets and so on that you will have to use on your EVA (ExtraVehicular Activities).

**4.- H+ :** Augmented Humanity, this is a term coined by Astroland as a nod to Augmented Reality.

In a similar way as R+ superimposes information, sounds,text, images etc on the world we see, at Astroland we want to establish true deep human values on the Red Planet.

Principles such as respect, cooperation and teamwork,goodwill,kindness, along with environmental consciousness,sustainability and zero waste policies are the DNA of Astroland and they are a MUST for this groundbreaking enterprise to thrive.

It is extremely important that you are aware of this and you are willing to share these ideals with us and become part of it.

Since this is a life-changing experience you will become an Astroland ambassador for the rest of your life, you will be asked lots of questions about your experience, from what made you do it to whether it has changed your view on things or even your life.

We need to be sure that you have the appropriate mentality and skills beyond your professional aims.

● **How many hours does it take to complete the three week remote training programme?**

You will be granted access to our virtual campus, which is basically an online university at all effects, meaning that you will get a diploma at the end of the experience.

You will be assigned a personal tutor who is going to accompany you all the way throughout your online training, so feel free to ask as many doubts or problems you might encounter.

If your tutor is not able to sort them out there and then they will put you in contact with some other professional who will.



On the campus you will have to attend classes given by top notch professionals in each area of expertise, from a real astronaut trainer from the ESA itself, one Space psychologist, and relevant and well known professors from prestigious universities, leaders in psychology ...biology, engineering...

Compulsory classes will be held live every week where you will be able to ask questions and interact with your corresponding lecturer or even with your colleagues in real time.

However in case you cannot attend to any of the classes this shall be recorded so that you can enjoy them at a later time.

With a total of 9 teaching hours (3h per week, split in 2 days), plus all the presentations, and relevant talks, videos and information that you will find on the campus.

You will have free access to your tutor and other professionals at any point during your 30 days online period (at the working hours).

Altogether this should take up around 30 hours of online training included the 9 teaching hours ( depending on each ASCAN background and previous experience, some of the information is difficult to take in without being familiar with the corresponding subjects, and it might require a little bit more time in some cases)

- **How do you 'test' if people have passed the training programme?**

Our board of experts will decide upon the ASCAN's performance on the course.

- **What happens if people 'fail' the training programme? Can they re-apply?**

Yes, they can if they are willing to do so.

In the case of failing, our team will assess and review each particular candidate's aptitude and skills.

We will advise the candidate on what to do to be more successful next time on the bases of diet, physical exercise, books, videos and other documentation and other areas to be improved for future missions recruitment.



- **What are the adverse circumstances that people are trained for within the emergency plan?**

Evacuation and emergency plan, rope climbing, speleology ,abseiling, first aid, rescue and self-rescue techniques.

- **Please provide examples**

Fire protocol, slips, trips and falls, nearly missed accident assessments,risk assessments,fractures, and psychological training to prevent and control anxiety,claustrophobia,and stress control.

## Ares Station (the cave)

- **What special equipment needs to be worn whilst inside the Ares Station?**

Astrolander spacesuit to be worn at all times and in all parts of the cave apart from when they are in the living unit (dome).

Which provides ventilation, and hydration systems as well as communications and devices for improving visibility, torches and cameras. Besides integrating a PPE (Personal protective Equipment) against falls and accidents.

- **Is the crew of ASCANs accompanied by a guide once inside the Ares Station ?**

No. The ASCAN will be left by themselves at all times within the Ares Station to make the most of this analogous experience.

However they are being monitored 24 hours from the Space Center and we also have another on call rescue team at the cave location for rapid support.

- **If there is an emergency whilst the ASCANs are inside the cave, how quickly are they able to receive help?**

The on call rescue team should be able to react in situ within the first 30 min, while the Space Center will contact 112 (Spanish emergency service) with whom we keep in contact and are already aware of the mission even before it starts,so further technical and professional medical support should be there within an hour.



- **Can the ASCANs leave earlier than the set period should they feel it is an experience that's not for them/no longer comfortable in completing the task?**

Yes they can, if they are willing to do so, but our policy works as follows:

Firstly our team of psychologist will contact such candidate and try to calm them down and give them the necessary support, and guidelines to overcome their frustration.

If this is still not good enough for said astrolander we will implement the prompt exit protocol under the responsibility of the guest with all the consequences:

NO money will be refunded and our logistic department will take them down to Santander city center (the nearest city) and from that moment onwards the guest will have to take care of themselves, their accommodation or travel fees.

Astroland will NOT take the responsibility on that matter.

- **Do you provide psychological support after guests have left the cave if needed / required?**

Yes, we do, of course, when required, once again our psychology department will assess the issue and will take good care of it.

- **Is there a set schedule for each day of the experience (i.e. get up at 7am) or is it subject to the individual/group?**

Yes, there is and strict technical schedule to be followed at all times. Everything is planned and arranged in proper working order as analogous missions on Mars are.

The ASCANs must be committed follow all of the instructions given.



- **Is there more detail you can provide around the living quarters?**
  - ***For instance, are there beds? Will people be able to shower? Go to the toilet?***

The dome or living unit consists of sleeping area (individual bunk beds).

Welfare facilities (vacuum toilet), with personal hygiene kits (antibacterial sponges and wipes, towels, oral hygiene ...) but no shower as such.

Leisure area where they can relax ,chat and rest and also an equipped workout area.

- **Regarding sustenance, is water provided in addition to the lyophilized food?**

Water consumption for eating and drinking is rationed to 5.5 litres per Astrolander per day. (2 litres for drinking and 3.5 litres to prepare the freeze-dried (lyophilized) food.