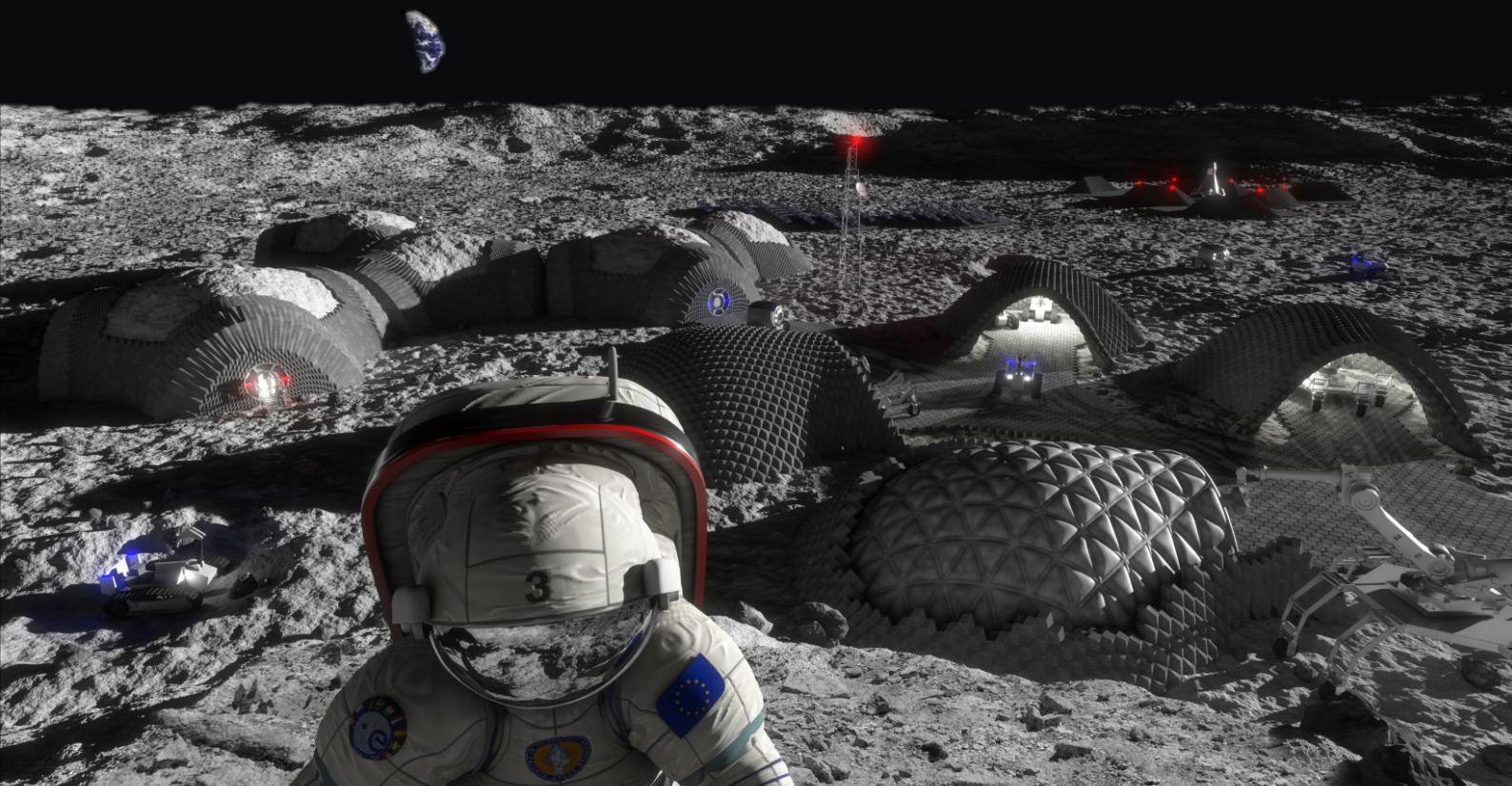


# Asclepios

## Sponsoring Brochure

Asclepios, EPFL

Student-led space analog mission, 2021/22





# Welcome Introduction

« Analog space missions are a vital instrument to develop humankind's future in deep space. Through a holistic approach they enable us to explore a multitude of aspects involved in designing life in outer space. They can easily be used to simultaneously explore technological, ecological, medical, psychological, social and cultural components involved in expanding human civilization beyond Earth's atmosphere. After all, human space flight is more than just building rockets.

Analog space missions also enable us to be more inclusive in shaping our shared future in space. People from all walks of life - with all kinds of ages and from different cultural and professional backgrounds - can easily participate and contribute. And more importantly, analog space missions also serve a purpose to communicate space science to a broad audience and make it much more accessible. »

Dr. Angelo Vermeulen, Mentor of Mission Asclepios  
Space systems researcher, biologist, artist, NASA HI-SEAS I  
Analog Astronaut (Commander)



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# The Asclepios Project

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The Asclepios project is a program of analog missions designed by students for students, under the mentorship of trained professionals. This interdisciplinary project unites students and scientists from all around the globe to achieve a common goal: successfully perform “do-it-yourself” space missions. It seeks to simulate short-term space missions on other celestial bodies, such as the Moon or Mars, thus paving the way to the future space exploration of our solar system.

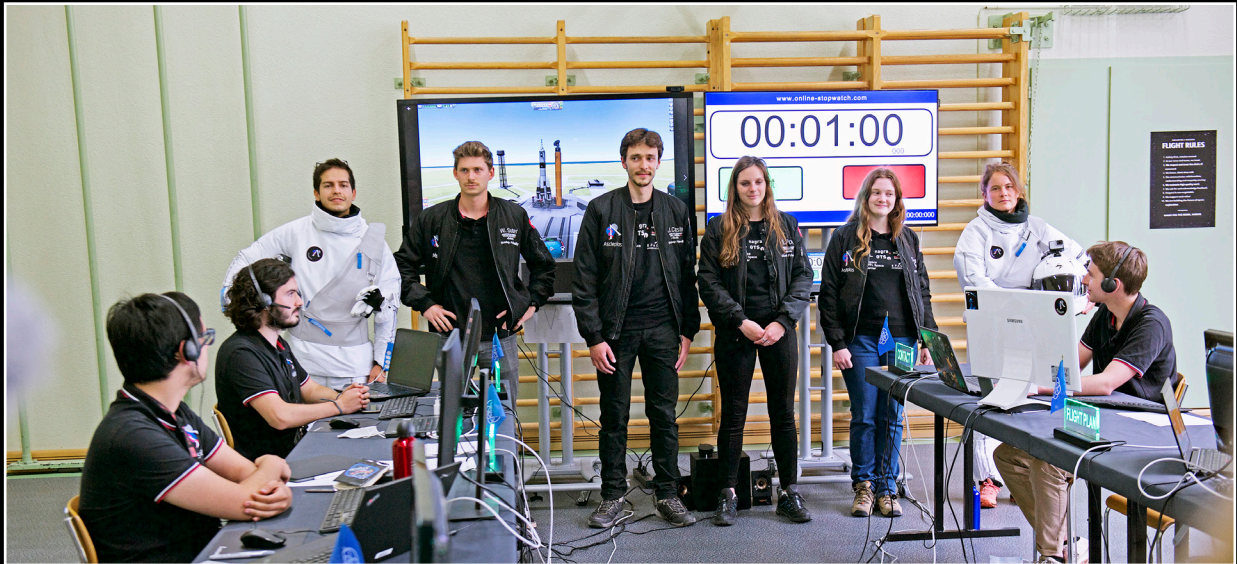


Initial team of Asclepios members in 2019

Asclepios is an École polytechnique fédérale de Lausanne (EPFL) non-profit organization which aims to run analogue space missions in order to contribute to the world of space exploration, engaging in space science and by training the space explorers of tomorrow. First launched in 2021 as part of another EPFL association called Space@YourService, the Asclepios program now runs independently to continue its mission with the development of its second analog space mission.







Analog astronauts awaiting mission countdown

# Objectives



The Asclepios missions are human analog missions, which can be performed by students with the goal of training them for their future space endeavours as astronauts, space engineers or members of the Mission Control Center.

## Education

The main objectives of the analog space mission is Education, which is carried out by the Asclepios team in terms of workshops and analog missions training, and by EPFL centres and laboratories as part of semester projects in order to train the next generation of spacefarers.



## Science

In addition, the analog space mission platform allows numerous laboratories across the world to test prototypes and develop experiments useful for the exploration of the Moon or Mars, making Scientific Research the second objective of Asclepios.





# The Teams

The Asclepios Missions are run by 100 international students from numerous countries across the world, working hand in hand with the common goal to successfully build a space analog mission. More than 15 fields of expertise are represented.

The fulfilment of the mission is guaranteed by five work packages:

## Science

Scientific investigation is one of the core targets of the Asclepios mission. As such, the science team finds international collaborators and selects experiments to be carried out during the mission.

## Design

The design team selects and designs the mission environment for it to resemble the conditions in a future lunar base as closely as possible. This involves the mission site itself as well as the equipment like air locks and space suits.

## Astronauts

This team selects and trains our analog astronauts for the field tests. They take care of psychological tests, medical inquiries as well as managing the astronauts training regimen and nutritional needs during the mission.

## Management

For the mission to be successful, this division organizes workshops, transports, and the budget for the mission, therefore creating an effective environment for the other teams to work in.

## Communication

One of the goals of Asclepios is space promotion. This team takes care of the project's public image, media and social networks. They trigger collaboration with innovative institutions and artists.

# Asclepios I - Genesis

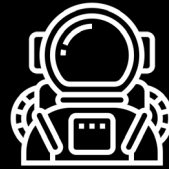
Asclepios I was our first analog astronaut mission carried out in July 2021. The Genesis crew consisting of six student astronauts from 3 different countries spent 9 days in the underground Grimsel Test Site in the Swiss Alps where they simulated life in a base inside a lunar lava tube. During the mission, they carried out a number of scientific experiments, Extravehicular Activities (EVAs) as well as science communication and outreach projects. The crew was supported 24/7 by an also student-run Mission Control Centre (MCC) located in the nearby village of Guttannen.



100 international  
students



35 International  
Collaborators



6 Astronauts



CHF 257,000  
raised



Guttannen test site tunnel



Astronauts at airlock during EVA

## Science

A total of 10 experiments were chosen to be carried out by the astronaut crew. These involved evaluating operations protocols such as lunar surface mapping, testing products such as self-healing bioplastics, and assessing the psychological impacts of the mission on the crew. Following the flight schedule, the astronauts also performed daily tasks such as repairs, maintenance and sports.





# In Images



Airlock of mission base, Grimsel test site



EVA with Earth's flag



Science on mission:  
Bioplastics experiment



Mission Control Centre



Base induction before lift-off



# Asclepios in the media

Asclepios I was covered by over 30 news outlets from 5 different countries. For Asclepios II, Radio Television Suisse (RTS) will be closely following the mission in order to make a TV documentary set to air after the mission completion in 2022.

The logo for RTS (Radio Télévision Suisse) features the letters 'RTS' in white, stacked vertically on a red square background.The logo for Info features the word 'Info' in white, centered on a red square background.The logo for canal 9 features the words 'canal' and 'kanal' in grey, stacked vertically, followed by a large yellow number '9' and a vertical grey bar, all on a white background.The logo for Bluewin features the word 'Bluewin' in white, centered on a blue square background with a red and white diagonal design at the bottom left.The logo for LA LIBERTÉ features the words 'LA LIBERTÉ' in white, italicized, serif font, centered on a red rectangular background.The logo for LE PROGRÈS features the words 'LE PROGRÈS' in white, bold, sans-serif font, centered on a blue rectangular background with a red border at the bottom.The logo for Timeline Antofagasta features the word 'Timeline' in blue, sans-serif font, with 'Antofagasta' in a smaller, cursive font below it, all on a white background.The logo for Rhône FM features the word 'Rhône' in a stylized, white, cursive font with a red outline, and 'FM' in a smaller, white, sans-serif font to the right, all on a white background.The logo for LE TEMPS features the words 'LE TEMPS' in a large, red, serif font, centered on a white rectangular background.The logo for emol features the word 'emol' in a large, white, sans-serif font, followed by a red square, all on a white background.The logo for MIRAGE news features a yellow and white striped circle on the left, followed by the words 'MIRAGE' and 'news' in a black, sans-serif font, all on a white background.



# Asclepios II



Asclepios II, our second analog mission, will be set in a Lunar South Pole environment. A crew of six international analog astronauts will be placed in isolation while they carry out experiments and EVAs to explore the challenges in the search for water. The mission will take place at Sasso San Gottardo, a Swiss world war era fortress in the Airolo municipality of Switzerland.

Where?



Gottard Mountain  
fortress

When?



July 2022

Who?



6 Analog  
Astronauts

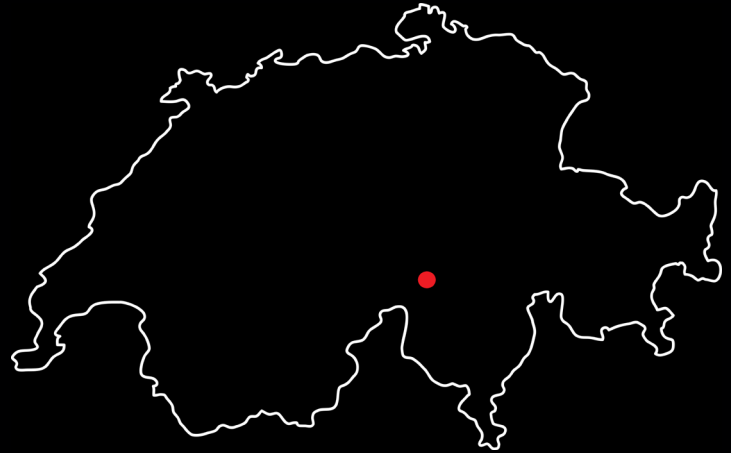
What?



Search for  
water



Gottard fortress tunnel



Location of Sasso San Gottardo

## Science purpose

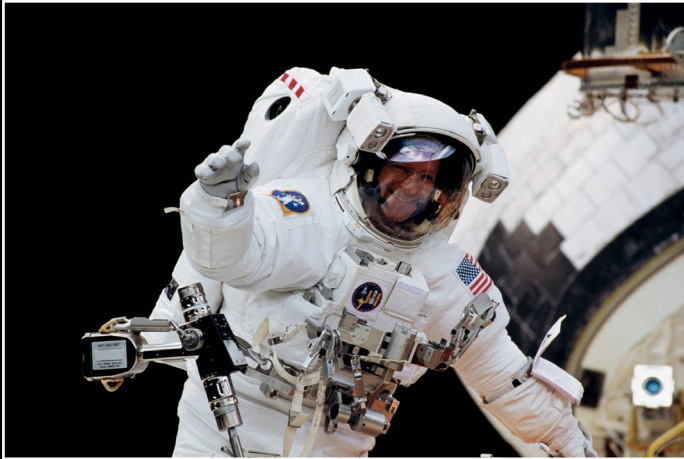
A reliable source of water will be vital in producing a sustainable base on a foreign celestial body. Apart from drinking and hygienic needs, water can also be split into hydrogen and oxygen which can be used for breathing and as a fuel. Last year, NASA confirmed to have found H<sub>2</sub>O in the sunlit areas of the Moon and that water is widely distributed on the lunar surface.





# Mentors

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Claude Nicollier is a former European Space Agency (ESA) Astronaut and currently a professor at EPFL. He is a member of the Swiss Space Center in Lausanne, and has participated in the astronaut selection process at ESA. Claude is a mentor for the astronaut crew of Mission Asclepios.

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Prof. Bernard Foing is a French scientist at the ESA and the executive director of the International Lunar Exploration Working Group (ILEWG). Through ESA, he will provide supervision and equipment to the Asclepios Mission, as well as mentorship and advice to the team.



Jean-Paul Kneib

Prof. Jean-Paul Kneib and Prof. Julia Schmale are two EPFL professors supervising the Asclepios Project. Jean-Paul is the director of the EPFL Space Center and Julia the director of the Extreme Environments Research Laboratory.



Julia Schmale

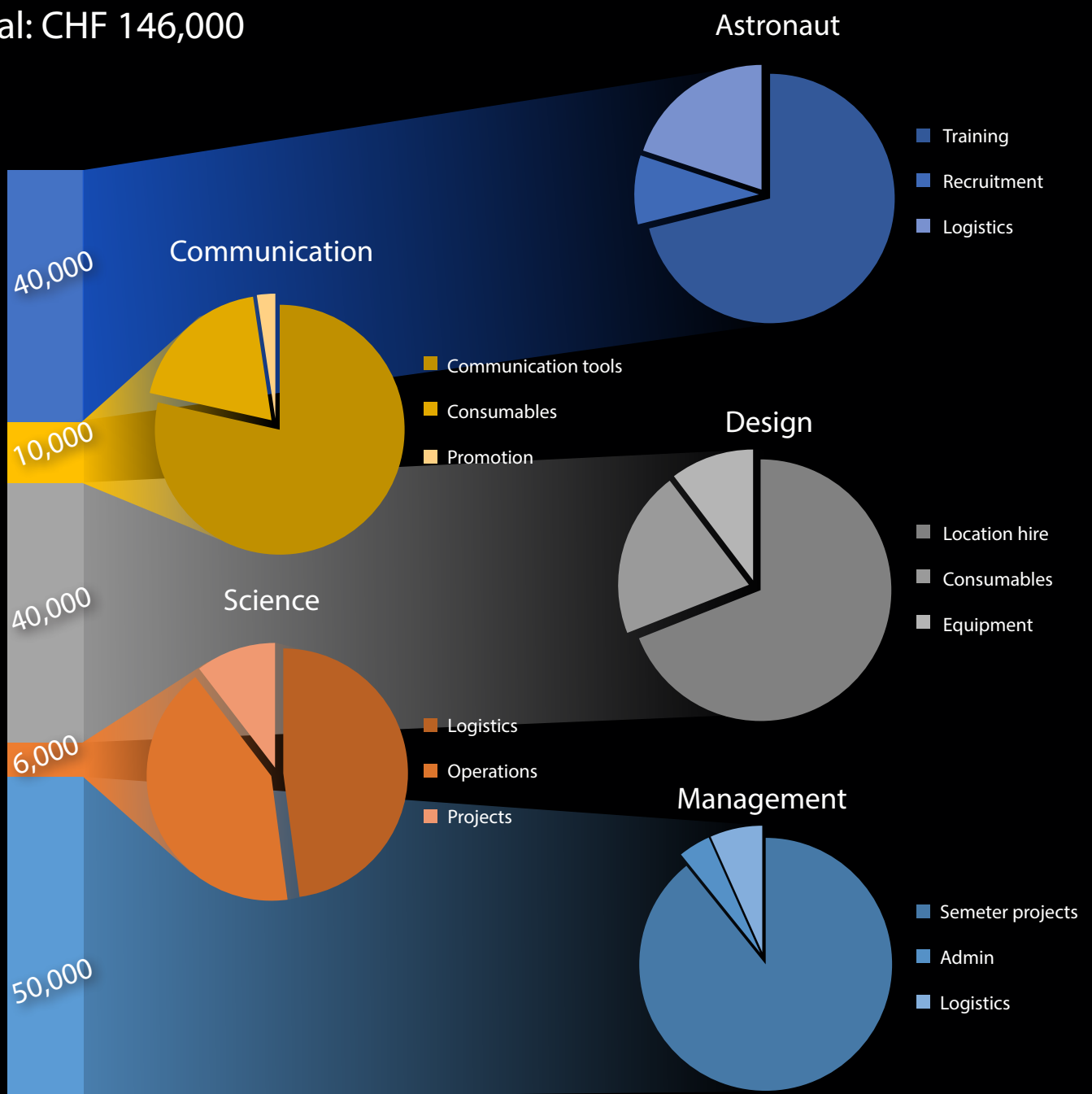
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# Budget

The budget cut-down shown below illustrates the cost of the Asclepios missions for the year 2021/2022. Our budget takes into account both the “in-kind” and cash sponsorships. We are very thankful for the trust and contribution of our partners, which allow us to aim for the Moon.

Total: CHF 146,000



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# Why join the adventure?

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The project has received the support and collaboration of numerous schools, institutions and companies across the world. Join them in helping us spread the enthusiasm for space exploration!

## VISIBILITY IN THE SPACE FIELD



Asclepios I astronauts and back-ups

We work in collaboration with the ESA, the Swiss Institute of Technology (EPFL) and many more which allow a great visibility for your company. The project's promotion goes from EPFL to worldwide conferences, artists and abroad universities (MIT, ETHZ, Cambridge University, etc.). The preparation of Asclepios I attracted more than 30 media outlets, among them the RTS journal, le Temps, Canal 9 and even Chilean media.

## PROMOTE INNOVATION AND OUTREACH

You want to put your foot on the Moon? This is the project for you. Contribute to the scientific experiments that will one day bring humans to the lunar surface!



Trial of virtual reality experimnts



Astronauts preparing for EVA

## SHAPE THE FUTURE

With Asclepios, we train the future space work force. Invest in our team and make the future space missions even greater!



# Sponsorship packages

By contributing to the mission, you will be given the following advantages until the end of Asclepios II to take place in 2022.

## Platinum (CHF 15,000)

Minimum of 7 500 CHF in cash or location partnership

- Large logo and link on the website
- Visibility on roll-ups and brochure
- Large logo on astronauts' shirts
- Display of sponsors products at exhibitions
- Receive Monthly newsletter
- One social media post
- Invitation to Design Reviews
- Logo on flyers and posters
- Visit of the base

## Gold (CHF 7,500)

Minimum of 4 000 CHF in cash

- Medium logo and link on the website
- Visibility on roll-ups and brochure
- Medium logo on astronauts' shirts
- Display of sponsors products at exhibitions
- Receive Monthly newsletter
- One social media post
- Invitation to Design Reviews

## Silver (CHF 5,000)

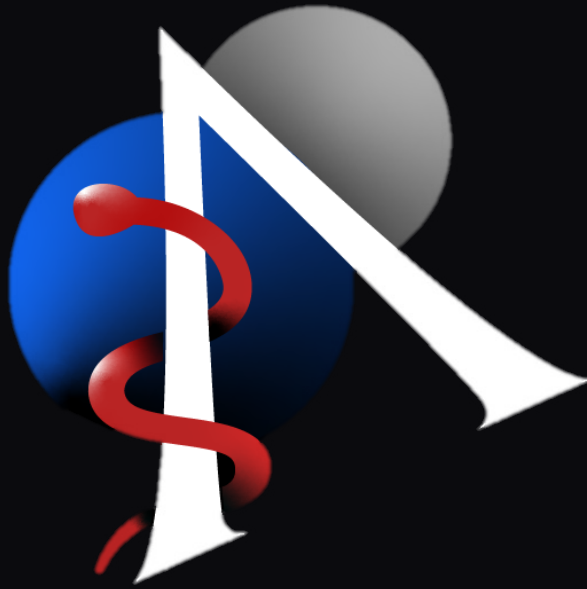
- Small logo and link on the website
- Visibility on roll-ups and brochure
- Small logo on astronauts' shirts
- Receive Monthly newsletter
- One social media post
- Invitation to Design Reviews

## Bronze (CHF 1,000)

- Small logo and link on the website
- Receive Monthly newsletter
- Invitation to Design Reviews

- A total of three Design reviews will be held which evaluate the progress and success of the mission
- Universities and Laboratories contributing to science projects: Logo and link on the website, Invitation to Design Reviews, Logo on project's brochure, Monthly newsletter.
- Donations: You can also support us with a donation which would be eligible for tax exemption. As a donor, you will not be named on our website or in any other publications related to the project (e.g. social media). Minimum contribution of CHF 1 000.

# Contact



## Asclepios

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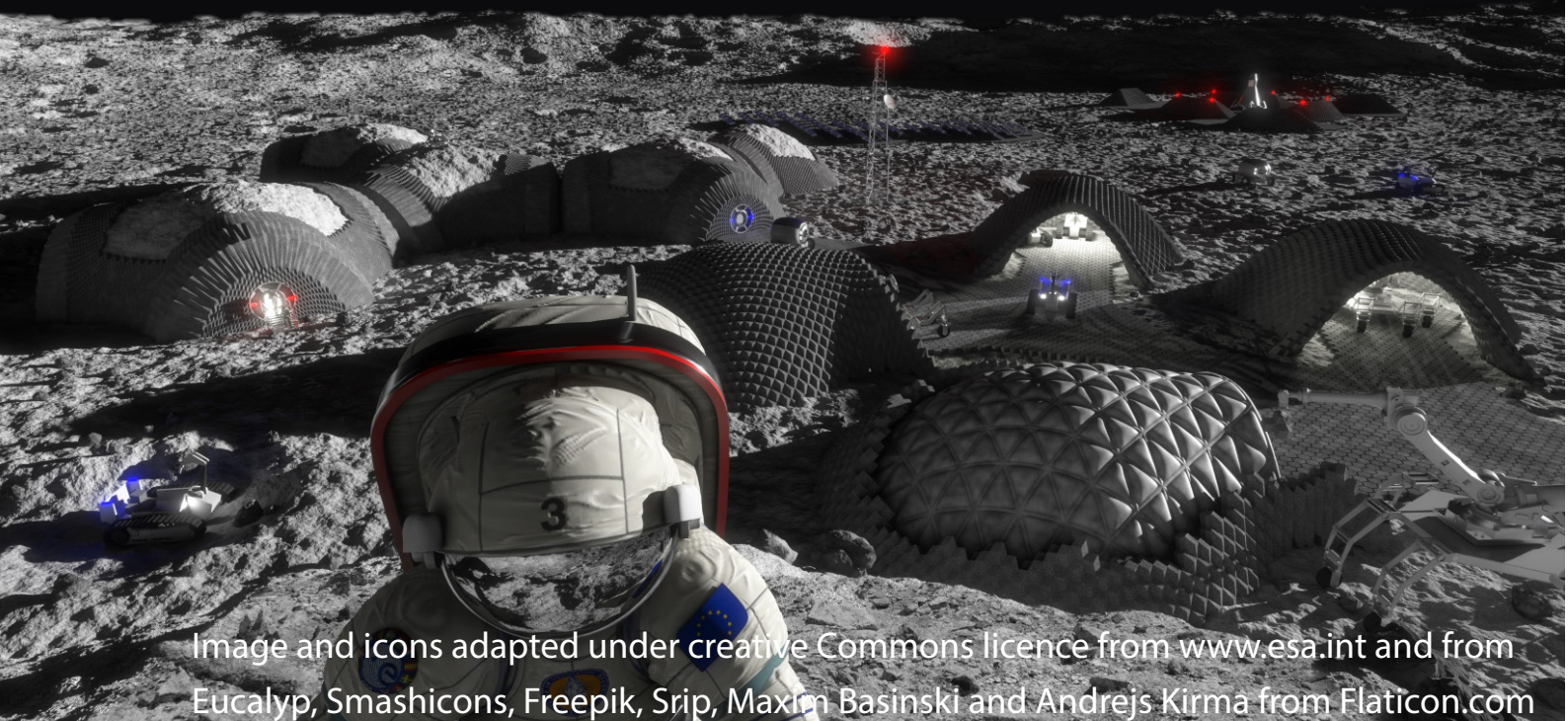


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