

VENTURI SPACE



MEDIA KIT



“

**IN THE EXTREME ENVIRONMENT OF THE LUNAR SOUTH POLE,
EXCELLENCE IS NOT AN AMBITION. IT IS A NECESSITY.**

| Gildo Pastor, President of Venturi Space |

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SINCE 2021

SINCE 2021, VENTURI SPACE HAS BEEN DEVELOPING MOBILITY SOLUTIONS FOR THE MOON AND MARS.

A strategic partner of the North American company Venturi Astrolab, Venturi Space develops and manufactures critical technologies: hyper-deformable wheels, high-performance batteries and battery management systems. As a result of this collaboration, the FLIP rover will be deployed on the Moon in the second half of 2026, followed by the crewed CLV-1 rover in 2028, as part of NASA's Artemis IV mission.

At the same time, Venturi Space is developing its own 100% European vehicles: ALTA LUNA, a compact utility rover designed to operate around future lunar bases, and MONA LUNA, which could be sent to the lunar South Pole around 2030.

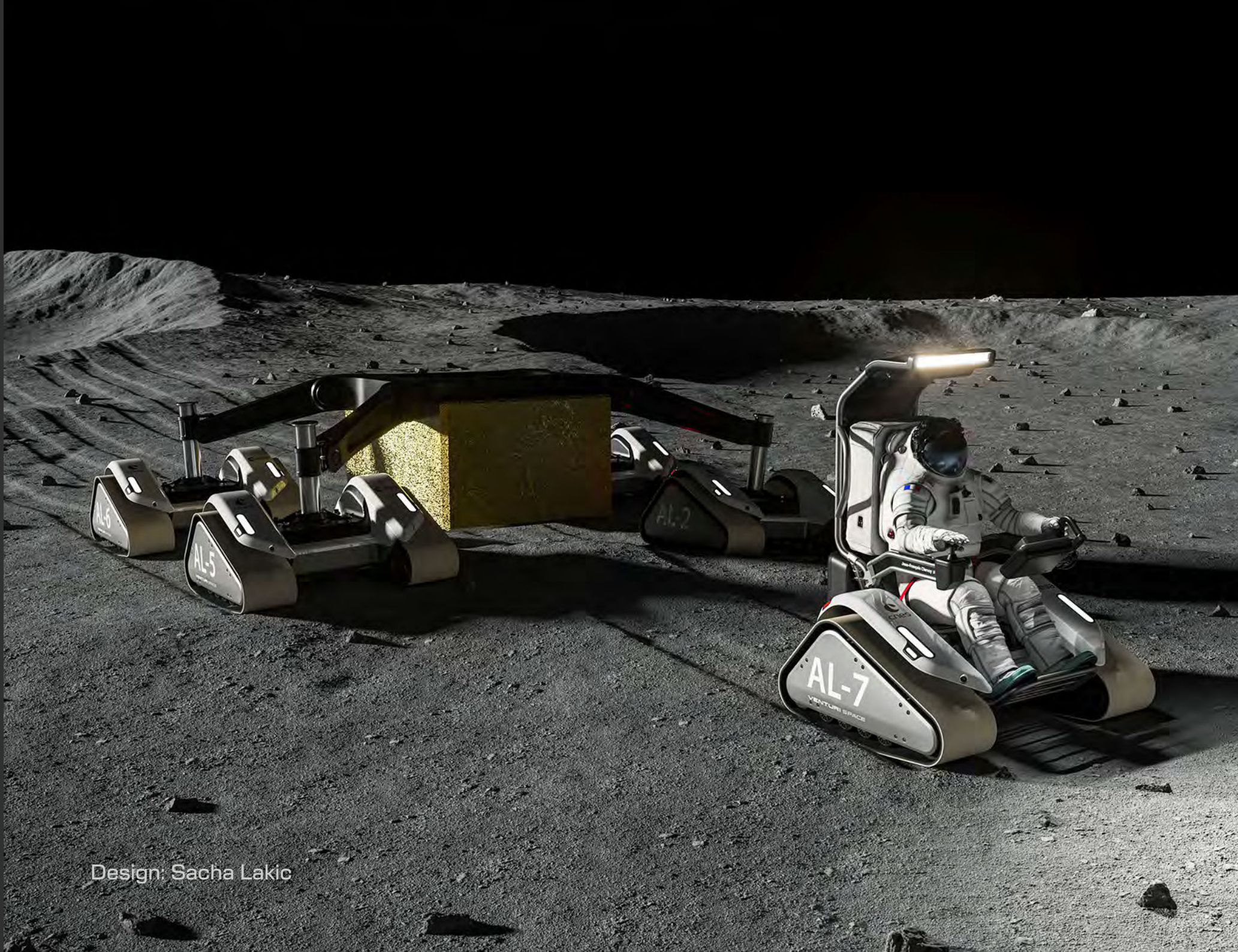


VENTURI ASTROLAB, Inc.
| Hawthorne, California · Houston, Texas |

SWITZERLAND
| Corminboeuf · Givisiez · Payerne |
In Switzerland, the teams develop and manufacture hyper-deformable wheels designed to ensure mobility across the most demanding lunar and Martian terrain.

MONACO
In Monaco, the historic home of Venturi Space, the company designs and manufactures high-performance batteries capable of operating in the most hostile space environments.

FRANCE
| Toulouse |
In France, Venturi Space has established its technology centre. Alongside the development of battery management systems, the teams lead the engineering, integration and qualification of complete rover platforms.



Design: Sacha Lakic

ALTA LUNA

A LUNAR UTILITY VEHICLE

Unveiled in Paris in September 2026 at the International Space Summit, ALTA LUNA is a compact rover designed for local operations around future lunar bases.

Designed for one astronaut, this utility vehicle will support local travel as well as payload handling and transport missions near habitats and infrastructure. Its target mass is 300 kg and its target speed is 15 km/h. Its tracks will provide high manoeuvrability and strong obstacle-crossing capability.

ALTA LUNA can be driven by an astronaut or operate autonomously. Multiple vehicles will be able to operate individually or in coordination.

COMMON TECHNOLOGIES WITH CLV-1

ALTA LUNA will incorporate the same high-performance batteries, designed and manufactured in Monaco, and the same battery management system, developed in Toulouse, as CLV-1, selected by NASA (see page 7).

WATCH THE VIDEO

MONA LUNA

A 100% EUROPEAN LUNAR ROVER

Unveiled in June 2025 at the Paris Air Show, MONA LUNA is an exploration rover developed by Venturi Space.

Designed to survive multiple lunar nights, it features four-wheel drive and four-wheel steering, passive damping and a robotic arm. Remotely operated or autonomous, it can carry up to 200 kg of payload, reach 20 km/h and climb slopes of up to 33°.

In April 2026, under a risk-reduction contract awarded by ESA, MONA LUNA underwent egress tests using an Argonaut mock-up, as well as mobility tests.

A SHOWCASE OF EXPERTISE

MONA LUNA brings together the three technologies developed by Venturi Space: hyper-deformable wheels manufactured in Switzerland, high-performance batteries designed and manufactured in Monaco, and a battery management system developed in Toulouse. All three will also equip CLV-1, the Venturi Astrolab rover selected by NASA.

[WATCH THE VIDEO](#)



Design: Sacha Lakio

FLIP

A VEHICLE FOR CARRYING SMALL PAYLOADS

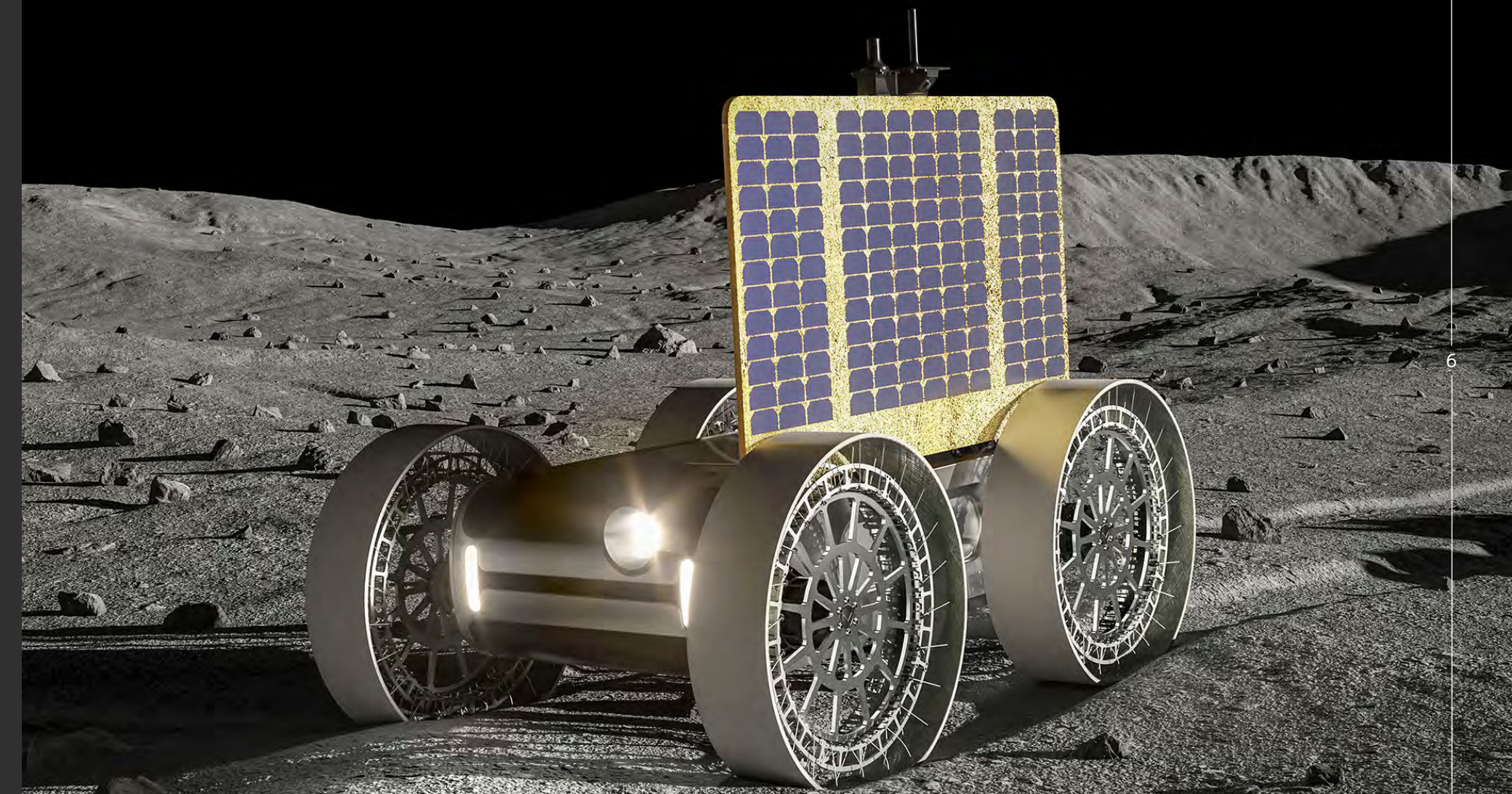
FLIP is a rover developed by the US company Venturi Astrolab and designed by Sacha Lakic, the French designer behind every Venturi Astrolab and Venturi Space vehicle. Weighing approximately 500 kg, FLIP can carry up to 30 kg of payload and reach 20 km/h.

It is scheduled to launch in late 2026 aboard a SpaceX Falcon Heavy. Astrobotic's Griffin-1 lander will deliver it to the Nobile region at the lunar South Pole. Operable from Earth and capable of certain autonomous operations, FLIP will carry NASA instruments and commercial payloads. It will collect data to support future Artemis missions.

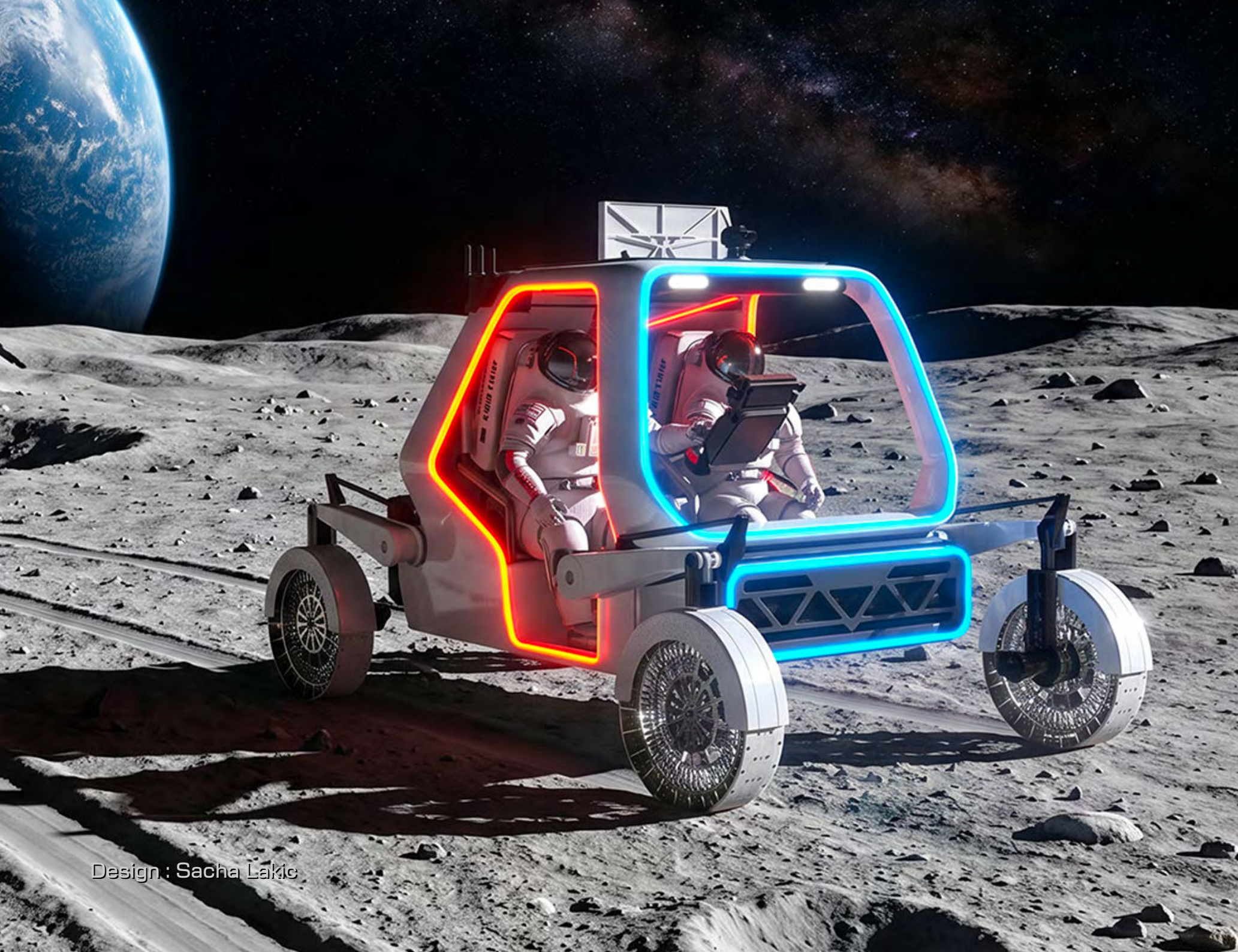
A FIRST FOR VENTURI SPACE

FLIP will enable the first lunar test of the hyper-deformable wheels developed and manufactured in Switzerland and the high-performance batteries designed and manufactured in Monaco.

[WATCH THE VIDEO](#)



Design: Sacha Lakic



Design : Sacha Lakic

CLV-1

THE VEHICLE FOR ARTEMIS ASTRONAUTS

CLV-1 is a crewed lunar vehicle developed by the US company Venturi Astrolab. Directly derived from FLEX (see page 8), it has a maximum mass of 950 kg and will be capable of reaching 10 km/h.

CLV-1 will also be capable of carrying out certain operations remotely. It is scheduled to arrive at the lunar South Pole in 2028.

On 26 May 2026, NASA selected Venturi Astrolab as one of two providers of vehicles for Artemis astronauts under a \$219 million contract.

THREE VENTURI SPACE TECHNOLOGIES ON BOARD CLV-1

CLV-1 will be equipped with hyper-deformable wheels developed and manufactured in Switzerland, high-performance batteries designed and manufactured in Monaco, and a battery management system developed in Toulouse.

[WATCH THE VIDEO](#)



LUNAR FLEX

THE LOGISTICS VEHICLE FOR FUTURE LUNAR INFRASTRUCTURE

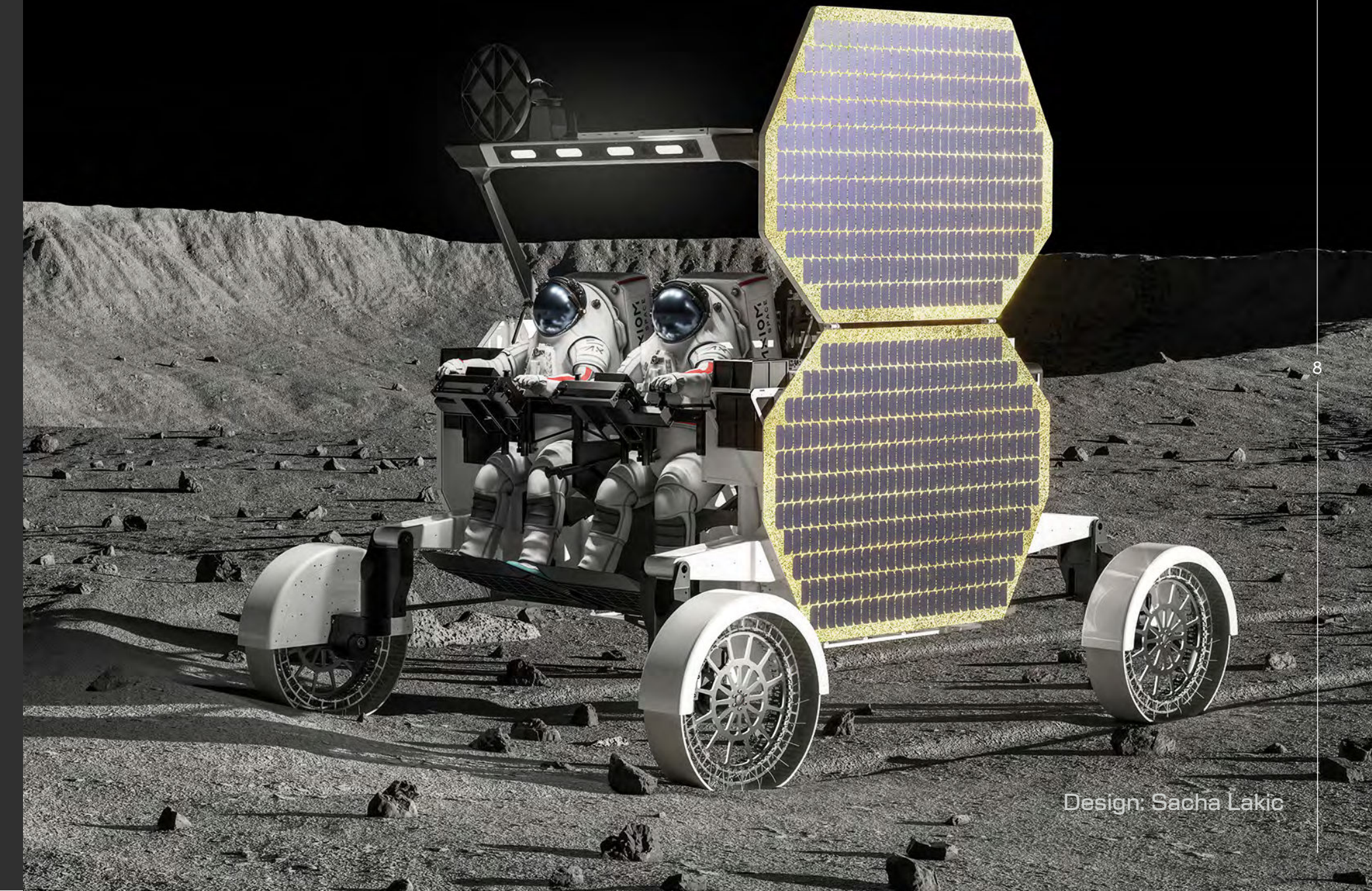
FLEX is a multi-purpose rover developed by the US company Venturi Astrolab. Thanks to its modular architecture and robotic arm, it will be able to transport, handle and deploy payloads. Remotely operable from Earth and semi-autonomous, it is intended for scientific and logistics missions and for the construction of future lunar infrastructure.

The FLEX architecture provided the basis for the development of CLV-1, the vehicle for Artemis astronauts. FLEX now features in Venturi Astrolab's roadmap beyond 2028.

THREE VENTURI SPACE TECHNOLOGIES

FLEX will incorporate hyper-deformable wheels developed and manufactured in Switzerland, high-performance batteries designed and manufactured in Monaco, and a battery management system developed in Toulouse.

[WATCH THE VIDEO](#)



Design: Sacha Lakic

MARTIAN FLEX

FROM THE MOON TO MARS

Venturi Astrolab has envisioned a Martian version of FLEX for scientific and logistics missions conducted by organisations from the public and private sectors.

Capable of remote and autonomous operation, MARTIAN FLEX would feature an integrated drilling and prospecting system to locate and extract subsurface water. This capability could contribute to the production of resources required for operations on Mars.

THREE VENTURI SPACE TECHNOLOGIES

MARTIAN FLEX is designed to incorporate high-performance batteries developed and manufactured in Monaco, hyper-deformable wheels developed and manufactured in Switzerland, and a battery management system developed in Toulouse.

[WATCH THE VIDEO](#) 

Design: Sacha Lakic

WHEELS

A HYPER-DEFORMABLE WHEEL FOR THE MOON AND MARS

The teams at Venturi Space Switzerland develop and manufacture hyper-deformable wheels for lunar and Martian rovers.

With a diameter of 930 mm, the wheel combines 192 cables and 96 springs with a flexible tread. Its structure deforms on contact with the ground to absorb surface irregularities and negotiate obstacles.

This capability limits the forces transmitted to the vehicle, helps maintain traction on steep slopes and reduces sinkage into the ground. The wheel is designed to withstand temperature variations approaching 400°C, abrasion from regolith, and solar and cosmic radiation.

A TECHNOLOGY FOR MULTIPLE MISSIONS

Adapted to the characteristics of each vehicle, this technology is used on MONA LUNA, FLIP, CLV-1 and FLEX. FLIP will enable it to be tested for the first time at the lunar South Pole by the end of 2026.

[WATCH THE VIDEO](#)



BATTERIES

BATTERIES DESIGNED FOR EXTREME ENVIRONMENTS

In Monaco, Venturi Space designs and manufactures high-performance batteries. Designed for the lunar South Pole, they will have to withstand solar radiation and nights lasting up to the equivalent of 14 Earth days.

Each vehicle uses several packs to ensure functional redundancy. They will have to withstand external temperature variations of nearly 400°C (-240°C to +130°C), contain the effects of overheating and preserve the energy required to resume the mission after a lunar night.

STRINGENT SELECTION, CRITICAL TESTING

Before integration, the cells are screened and inspected. They undergo charge-discharge, endurance and safety tests: vacuum, temperature, radiation, vibration, impact, short circuits, overcharging and over-discharging. Complete packs are tested for thermal runaway.

[WATCH THE VIDEO](#) 



BATTERY MANAGEMENT SYSTEM

THE INTELLIGENCE AT THE HEART OF THE BATTERIES

In Toulouse, Venturi Space France develops the battery management systems (BMS) for lunar and Martian rovers. Integrated into the battery, the BMS ensures battery safety, performance and service life.

Operating autonomously, it checks the voltage of each cell every 10 milliseconds and measures temperature at several points. It calculates state of charge, state of health and current limits in real time. During the lunar night, it manages the rover's thermal and energy systems.

A CENTRALISED ARCHITECTURE

The system combines a battery management unit (BMU) with several cell monitoring units (CMUs). The BMU centralises communications and controls cell balancing; the CMUs monitor the cells and transmit critical data. This technology equips or will equip every vehicle presented in this press kit, except FLIP.



PRESS CONTACT

Fabrice Brouwers
HEAD OF COMMUNICATIONS

+33 (0)6 40 61 00 80

fbrouwers@venturi.com

CONTACT

7, rue du Gabian
98 000 MONACO

+377 99 99 52 00

info@venturi.com

www.venturi.space



@venturi



@venturi.official