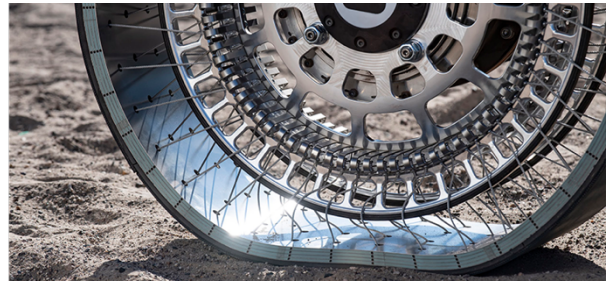


WORLD FIRST: VENTURI'S HYPER-DEFORMABLE LUNAR WHEEL PRESENTED AT THE PARIS AIR SHOW

Press release



Le Bourget – 19 June 2023

On Monday 19 June, Venturi Group presented its latest invention at the international Paris Air Show in Le Bourget, France: a hyper-deformable lunar wheel. Venturi Lab designed and manufactured the wheel using materials it created. The Venturi wheel is a world first.

A turning point in the history of the space industry, Venturi has reinvented the wheel. Engineers, chemists and physicists at Venturi Lab in Fribourg, Switzerland have created a unique hyper-deformable lunar wheel.

The wheel will be used on Venturi Astrolab's FLEX rover, a spacecraft that will be deposited on the Moon in 2026 by Space X's Starship rocket and initially used to transport payloads.

In the past, with the exception of the Apollo missions, space exploration vehicles have always been equipped with rigid wheels. The Venturi wheel, however, is highly malleable while remaining long-lasting and robust.

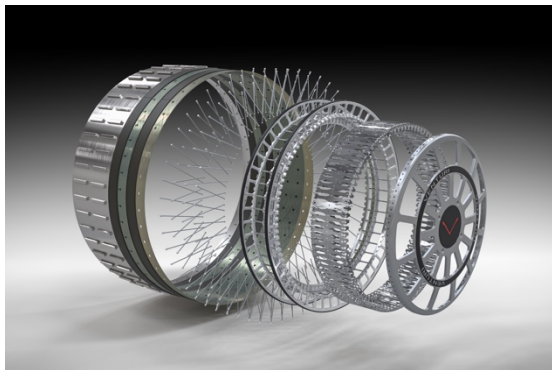


From 2026, when the FLEX rover is put into service at the lunar south pole, where extreme temperatures (-90 to -230°C) prevail, the four wheels supporting the two-tonne vehicle (payload included) will warp in order to absorb ground irregularities as

the FLEX travels at 20 km/h. The wheels will need to perform over at least 1,000 kilometres and resist strong radiation from the south pole.

Features of the Venturi wheel include:

- an exceptional diameter of 930 mm
 - a complex system of 192 cables that act as spokes
 - a tread made flexible by a newly invented material
 - an outer rim equipped with springs
- (see *press kit for details.*)



This breakthrough technology, based on unique materials, is equal in importance to the arrival of the rubber, and later pneumatic rimmed tyre in the 19th century.

NASA has selected Venturi Astrolab to test and analyse the Venturi wheel at the NASA Glenn Research Center in Cleveland and the NASA Johnson Space Center in Houston.



Wheel press kit
Venturi press kit
The story so far video

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