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20287 - מילשטיין - מנכ"ל סטראדמונ"ל סטראדחברת - StemRa ורן					

# Special vest could take Israeli flag to Moon

• By EYTAN HALON

No person has visited the moon since the team of Apollo 17 landed on the lunar surface in December 1972, but that might all be about to change.

NASA has been tasked by US President Donald Trump's Space Policy Directive 1 with landing American astronauts on the Moon's South Pole by 2024.

To boot, the space agency's Artemis program to land and later establish a sustainable human presence on the moon is intended as a test-bed for sending astronauts to Mars and beyond.

NASA has vowed to "use all means necessary" to ensure the success of the mission, and that could include technology developed by StemRad, a Tel Aviv-based company behind the AstroRad

radiation protection vest.

Developed in partnership with aerospace and defense giant Lockheed Martin, the AstroRad vest is personal protective equipment for astronauts to wear beyond Low Earth Orbit, mitigating space radiation exposure outside the Earth's magnetosphere.

Boasting the Israeli flag, the AstroRad uses a proprietary smart shielding design to selectively protect organs and tissues which are most sensitive to radiation exposure. The company has developed an adapted suit for women, who are particularly vulnerable to space radiation.

"Our vest is useful even for short visits to the Moon, a mission to swing by the Moon or any place outside Earth's magnetic sphere, where you can experience fairly aggressive solar particle events [SPEs],"

StemRad CEO Dr. Oren Milstein told *The Jerusalem Post*. "Of course, it will be super useful on long voyages all the way to Mars, and even settling Mars."

Sponsored by the Israel Space Agency (ISA) and in partnership with Lockheed Martin, AstroRad is scheduled to launch aboard an International Space Station resupply mission in October to ensure that the personal protective equipment is ready for operational use.

The vest will be tested by three female astronauts in micro-gravity for variable durations and during routine activities.

The ISA has also signed an agreement with NASA and German Aerospace Center (DLR) to launch the AstroRad radiation protection vest aboard NASA's uncrewed Artemis-1 mission around the Moon in late 2020

or early 2021, the last test flight before NASA begins manned deep space missions.

If the tests are successful, AstroRad could be a critical part of NASA's ambitious space exploration plans for years to come.

"It's definitely important for me as an Israeli to demonstrate that Israel is contributing to man's most aspirational dreams and visions," said Milstein. "We're helping mankind to fulfill its very important quest to explore and populate space, and create a viable alternative to Earth."

"The Israeli flag will be visible on the vest, and it was always part of our campaign to make this an international project where multiple countries are striving together for a common cause," Milstein added.

AstroRad will be on display on Washington's National Mall this weekend as the National Air and Space Museum and NASA celebrate the first Moon landing at the Apollo 50 Festival.

"Israel is often viewed as a pariah nation that cannot collaborate with other nations," he said. "Now you can see just one of thousands of examples of Israelis pulling together with Americans and Europeans to make the world a better place."



STEMRAD CEO DR. OREN MILSTEIN (left) and ISA director-general Avi Blasberger with the radiation protection vest.

(Courtesy)