



Solar Foods, press release 20 August 2024

Solar Foods one of the Phase III winners of the NASA Deep Space Food Challenge

Solar Foods has been selected as the international category winner in the NASA Deep Space Food Challenge. Launched in January 2021 by NASA and their Canadian counterpart organisation CSA, the challenge seeks innovations to feed astronauts on long space missions. The winners were announced on 16 August at an event held on The Ohio State University's Columbus campus.

The win provides compelling evidence that producing nutritionally rich Solein® in space is one of the most attractive food production solutions for long space missions, where the possibilities to prepare food are extremely limited. Solar Foods is solving this challenge by recreating the Solein bioprocess to fit smaller confines, while drastically improving the water economy of our future spaceships.

“Our mission is to solve the global food crisis and, of course, Solein is primarily meant to be enjoyed on Earth. But outer space is the ultimate stress test of a circular economy: it represents both an opportunity to advance the history of science and a chance to grow and diversify our business. We are beyond excited to help take humanity deeper into space, while at the same time developing Solein production for extreme conditions here on Earth,” says **Arttu Luukanen**, Senior Vice President of Space & Defence at Solar Foods.

Solar Foods was selected as one of the international winners also in [phases I and II of the challenge](#).

Destination Mars

Success in the preceding phases of the challenge is testimony to the attractiveness of the company's solution for space food production. Solar Foods' space concept produces Solein according to the same microbial gas fermentation technique that the company uses to grow the novel protein on Earth. Any space habitat has ample amounts of hydrogen available, as a by-product of oxygen generation for the crew, as well as CO₂ exhaled by the crew. When integrated into the on-board environmental control and life support systems of a spacecraft, the food production system will be able to utilise both the CO₂ as well as waste hydrogen from the on-board oxygen generation system that is currently vented overboard.

“Walking home with the victory from Phase III, we anticipate that this major merit will boost our profile both with space agencies and with companies developing commercial space stations. Solar Foods is looking forward to working together with agencies and companies to accelerate the development – and subsequent deployment – of our technology in orbit, on the Moon and eventually on Mars,” Luukanen concludes.

You can read more about Solar Foods’ ambition to bring Solein to space missions [here](#).

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What is Solein?

Solein is an all-purpose protein grown with the air we breathe: The unique bioprocess takes a single microbe, one of the billion different ones found in nature, and grows it by fermenting it using air and electricity. Solein is a nutritionally rich and versatile ingredient which can replace protein virtually in any food. Solein can also be used as a fortifier to complement the nutritional profile of various foods: it can be a source of iron, fibre and B vitamins, and it can also bring different techno-functionalities into food products. Solein is suitable for any food or product, regardless of diet. Learn more about Solein at www.solein.com.



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