

Taking One Step Closer to Life on Mars, Interstellar Lab Unveils “BioPod” Created with Dassault Systèmes’ 3DEXPERIENCE Platform

- Self-sustaining food production system advances Interstellar Lab’s mission to support human life sustainably on Earth, the Moon and Mars by generating and recycling food, water, air
- Interstellar Lab used a virtual twin experience to simulate, test and optimize the performance of BioPod’s dome and biological systems
- In the race to explore space, the “Reinvent the Sky” industry solution experience on the cloud accelerates concept to certification for disruptive companies

VELIZY-VILLACOUBLAY, France — June 24, 2021 — [Dassault Systèmes](#) (Euronext Paris: #13065, DSY.PA) today announced that [Interstellar Lab](#), a research company creating closed-loop controlled environment habitats and biospheres generating and recycling food, water and air, used the 3DEXPERIENCE platform on the cloud to efficiently design and develop its first prototype, BioPod. This controlled environment food production system advances its mission to build space-ready stations containing the infrastructure and resources to support human life sustainably on Earth, the Moon and Mars.

Interstellar Lab used the “[Reinvent the Sky](#)” industry solution experience based on the 3DEXPERIENCE platform to seamlessly collaborate, and rapidly optimize and validate its designs. In one digital environment providing secure and instant access to the latest project data from anywhere at any time, team members in France and the U.S. combined their expertise and used a virtual twin to simulate and test the performance of BioPod’s structure in extreme climates, as well as that of its biological systems such as the optimal levels of oxygen, carbon dioxide and light levels for plants to grow.

“Climate change is a real emergency for Earth and we only have a small window to bring about positive change. We are developing a new framework for sustainable living on Earth and a testbed for future space missions,” said Barbara Belvisi, Founder and CEO, Interstellar Lab. “The 3DEXPERIENCE platform enables us to have the most efficient working processes and avoid reworking designs from scratch. As we progress to the next stage, the platform’s program and project management capabilities will be invaluable to us for storing and retrieving design knowledge and managing the product lifecycle effectively.”

BioPod is an inflatable dome measuring 6 meters (19.7 feet) wide, 10 meters (32.8 feet) long and 4.5 meters (14.8 feet) high that uses composites for the solid technical base and soft plastic membranes for the main and outer shell. It is designed to revolutionize food production by combining advanced crop cultivation technology with predictive monitoring to grow a diverse array of crops and plants that would not otherwise survive in a traditional indoor farming setup.

As BioPod evolves, Interstellar Lab will use the virtual twin to experience and monitor the dome's operations and maintenance, and gather data around food production and the environment. The 3DEXPERIENCE platform will also facilitate communication with suppliers as the company designs future modules and scales up manufacturing and outsourcing, and enable Interstellar Lab to create photo-realistic renderings from BioPod's 3D model, to communicate its vision.

"Innovators are shaking up traditional industry dynamics in the race to explore space with new concepts defining the future of aerospace systems," said David Ziegler, Vice President, Aerospace & Defense Industry, Dassault Systèmes. "The 3DEXPERIENCE platform enables them to integrate technology into product development and accelerate the product lifecycle from concept to certification using the same tools that larger companies use, without the overhead. They can engage in virtual twin experiences to optimize their ideas, gain critical first-to-market advantage, and introduce more sustainable ways to live and explore."

Social media:

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Dassault Systèmes' industry solution experiences for the aerospace & defense industry: <https://ifwe.3ds.com/aerospace-defense>

Dassault Systèmes' 3DEXPERIENCE platform, 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions: <http://www.3ds.com>

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About Dassault Systèmes

Dassault Systèmes, the 3DEXPERIENCE Company, is a catalyst for human progress. We provide business and people with collaborative 3D virtual environments to imagine sustainable innovations. By creating virtual twin experiences

of the real world with our 3DEXPERIENCE platform and applications, our customers push the boundaries of innovation, learning and production. Dassault Systèmes brings value to more than 290,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit www.3ds.com

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About Interstellar Lab

Interstellar Lab is developing and building closed-loop sustainable living systems on Earth and in space. The company focuses on creating space-grade food production systems and habitat modules for humans. On Earth, to provide solutions regarding the current climate crisis and the need of new food production systems. In space, by developing closed-loop life support systems for lunar missions in the context of NASA’s Artemis Program and in the future for Mars exploration.

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