PRESS RELEASE

CRS4 at Dubai Expo

Cagliari, October 18, 2021

CRS4, Center for Advanced Studies, Research and Development in Sardinia, participates at the **Dubai Expo in the Italian Pavilion** together with TOLO Green, the first Italian producer of microalga spirulina which is exploited in the plant capable of producing oxygen for the same pavilion through techniques of CO_2 capture.

The participation in the Expo comes from the collaboration agreement between CRS4 and TOLO Green for the testing and definition of cultivation techniques of microalgae strains of Dunaliella, Haematococcus and Spirulina, in which **CRS4** is responsible for optimizing the quality and maximizing the production of spirulina of the corresponding plant in Arborea (OR) owned by TOLO Green, and in particular takes care of the testing of innovative cultivation techniques in the **absence of gravity**, which can be used for **future missions during deep space exploration**.

Giacomo Cao, **CRS4's sole administrator**, points out: "During the last year, I have been coordinating a working group involving public institutions and private companies operating in Sardinia with the aim of tackling an important scientific and technological issue in the field of astrobiology, with particular emphasis on the **study and analysis** of the behaviour of vegetable and animal **cell lines**, and therefore also human, under **extraterrestrial conditions**, in order to understand all the possible mechanisms that could help future missions to various planets and asteroids. We have already achieved important technological results, which are represented by the filing of an international patent on the subject a few days ago".

Thanks to the new patent filed by CRS4, Sardinia's Aerospace District, TOLO Green, and the Universities of Cagliari and Sassari, which focuses on the development of a **kit** consisting of a **clinostat** and a **chamber with a CO_2** atmosphere to reproduce extraterrestrial conditions such as those ones on Mars, it has been possible to demonstrate how at zero gravity and in the presence of an atmosphere saturated with carbon dioxide, alga spirulina can grow, thus contributing to possibly sustain human beings who will reach the **red planet**, through the use of microalgae not only as **nutritional support** but also as source of **oxygen**, produced by the same techniques through the capture of CO_2 available in the corresponding atmosphere.

Today at 4 p.m. (Dubai time), Giacomo Cao, CRS4's sole administrator, and Gilberto Gabrielli, founder and president of TOLO Green, will participate to the Expo forum "Space 4 sustainability" organised by Avio, a leading company in the field of space propulsion, on the subject of spirulina in space, in particular its cultivation under zero gravity conditions.

In Dubai, CRS4, thanks to TOLO Green, is also present with its **highly interactive technology** - a transparent holographic display, able to increase the involvement of the public through an installation that offers visitors multimedia and interactive contents (videos, images) that can create a unique and dynamic experience for their use through mobile devices.

The Forum "Space 4 sustainability" can be followed at the link: https://www.youtube.com/italyexpo2020

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