Transcending Societal Issues for Space Exploration (12)
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SPACELAND CITY AS MARS-BASE-THEMED URBAN SETTLEMENT TO SHOWCASE HOW PLANETARY EXPLORATION PROGRAMS MIGHT TRIGGER GREENER AND HEALTHIER POST-PANDEMIC URBANISTICS ON THE EARTH

Abstract

The challenge of developing prototypes for human bases on Mars can also serve to completely rethink the way in which humans work and live on planet Earth, post pandemic: "SpaceLand City" is a landmark project implementing new post-COVID-19 everyday's life standards for human communities in innovative space-tech-based urbanistics, providing more freedom, flexibility, spirituality and environmental awareness to its citizens.

Such future-facing near-0-energy-building (NZEB) real estate schemes are conceived for joint residential, business and educational purposes inspired by the Space "look feel" to deliver new urban life conditions thanks to a senior engineering team also engaged to develop, within such smog-free cities, ground-breaking 3D-printed habitats paving the way to Mars but also serving as an iconic symbol of these new towns of the future.

The program has been presented by Architect Petraroli at the United Nations' High-Level Forum on Space as a socio-economic sustainable development driver, with this paper author and the Head of State of Mauritius (https://youtu.be/2RthuFMcdfg).

On-going design is showing that Space-derived eco-friendly construction solutions and portable technologies using local materials can indeed be at the center of a needed "holistic engineering" phylosophy.

These space-program-inspired, pollution-free settlements will be developed with cutting-edge green-tech building methods, systems and materials, i.e. dry-wall construction technologies, vertical green and high-performance insulation materials for both habitation and commercial buildings as well as, nearby, for real scale emulation of original Mars habitats employing ISRU-related 3D-printers (In Situ Resources Utilization), embedding out-of-this-world immersive "space-station-like" experiences for inhabitants and visitors.

SpaceLand City, with more than 10,000 m2 of vertical green per each hectare of developed terrain, will become a trend-setter also for innovative tourism, side by side with edu-applications at its low-gravity RD center within Mars demo-habitats: from new materials to tissue engineering, from robotized agriculture to anti-ageing nutritional sciences and regenerative medicine through 3D biomanufacturing RD, aiming at the unique conditions of weightlessness.

Such a development capitalizes on SpaceLand's legacy, including world records set on zero-G research flights mostly at NASA, involving kids, elderly and disabled individuals for experiments also for Nobel Prize winning scientists.

SpaceLand's building concept will also demonstrate how such techniques can bring to fast-built, low-cost, energy-wise greener and more salubre houses addressing those low-income or zero-income populations in developing Countries who are still living inside shanty towns and bidonvilles.

Planetary exploration can indeed be a key-factor also to pave the way to a better and healthier urban life on our planet.