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<b>Country</b>	UK
<b>Symposium</b>	2 SYMPOSIUM ON SPACE DEVELOPMENT
<b>Theme</b>	2.3 Earth orbit industrial development
<b>Abstract Title</b>	The SPACE Project - Updating Island One
<b>Abstract Code</b>	SRIC3-SDE-2.4-05.022
<b>Co-Authors</b>	-

## Abstract

In 2013 Jerry Stone set up The SPACE Project - (Study Project Advancing Colony Engineering) - at the British Interplanetary Society, to update the concept from the 1970s of a 10,000-person space habitat at the Earth-Moon L5 location. Jerry started the project not by setting goals or saying what topics they should cover, but by asking the team members to come up with questions that would need to be answered as they progressed. He put the first one to the team himself: "All habitat designs have assumed that they will be rotated to simulate 1g, but do we need 1g? How about 0.9g, 0.8g or even less? There would be less stress on the structure, meaning it wouldn't need as much material for its construction; there would also be less stress on its inhabitants - on their cardiovascular system, their muscles and their skeletal framework. Over time, they grow taller to a degree, and we'd have to take account of this in the architecture." "However an associated question is; How low can a value of gravity be before it becomes a problem rather than an advantage?" The answer to that is; "Nobody knows", because it's never been done! Another question is; "We wouldn't start construction of an Island One habitat straight off. We'd need the assembly plant; before that, the manufacturing facilities; and before that, somewhere to house the construction team. How could that be done?" This presentation describes a development from The SPACE Project that came to be termed "Island Zero" which looks at a way of investigating low-gravity structures, and would also also vastly aid the main habitat construction - Jerry has referred to them as "Portakabins in space". Yet they would be relatively low-cost, and could have many uses apart from building Island One - and larger - structures.

## A short bio

Jerry Stone is the founder of Spaceflight UK, a Fellow of the British Interplanetary Society, former President of The Mars Society UK and a Freelance Space Presenter. He gave his first space talk at school back in 1969 when he was 14; now he does this for a living. He has spoken on space topics at many venues, including The Edinburgh Festival; various Mars Society Conferences; Oxford University; The Palace of Westminster; The Royal Institution; The Royal Observatory; and a rock festival! He presents space workshops in schools across the UK, inspiring pupils with a range of activities. He is developing a new workshop that will allow pupils to simulate what the ESA's ExoMars rover will do on Mars, investigating soil samples for evidence of life. He is often interviewed on TV and radio, covering space mission and astronomy events. He was also interviewed for Blue Peter about how rockets work! He is a space author. He is described as "One of the leading speakers on space exploration".