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Commercial Spaceflight Safety and Emerging Issues (1)

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ENSURING GUEST SAFETY IN FUTURE SPACE STATION

Abstract

With the rise of New Space companies, space is becoming more accessible to a wider public than just professional astronauts. However, future space tourists, even with a short training, do not have the same psychological and physiological conditions as the career ones. This is why, in this context, particular attention must be paid to their safety, especially in such a harsh environment. This will be studied in the frame of a space hotel. A special note that ensuring that non-professional astronauts are as safe as possible will enable humanity to prepare more effectively for the creation of lunar or Martian bases in the long term.

A strong risk assessment, safety strategies and emergency response protocols need to be finely tuned to maximise the chances of everything running smoothly. The methodologies employed in identifying potential hazards, implementing robust safety measures, and establishing clear emergency guidelines to ensure the well-being of all occupants, will be explored. The choice of taking certain risks into account is studied in detail, striking a balance between seeking to reduce the probability of a risk and its potential consequences as far as possible, and being financially viable. This also raises the question of the special insurance that these tourists will have to take out.

These countermeasures do not only consist of designs or the implementation of more redundancies; avant-gardist technological means will also be evaluated, such as the use of artificial intelligence and virtual reality, and the post and pre-mission aspects are not to be neglected. In fact, certain risks can be minimised as soon as the selection criteria for future astronaut tourists are established. Additionally, the data collected before, during and after the flight can be studied to improve the physical and psychological health of future tourists by implementing new procedures or introducing new measures.