

Lunar Exploration (2)
Lunar Exploration (4) (4)Author: Mrs. Adele Gammarano
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International Space University (ISU), SpainSPACEPORT: HYBRID MODEL FOR BUILDING A LONG-TERM MOON COLONIZATION 547.5 B
USD EARNING BEFORE TAX (EBT)**Abstract**

This business plan details the launch of a hybrid model for the Moon settlement: science research (astrobiology) and Space Tourism. We envisage that Space Tourism will eventually become our main revenue stream. The location identified for the settlement is the South Pole region (Shackleton crater) where abundant resources are present and going to facilitate our lunar colony constructions to build habitats and various infrastructures. We believe that even though higher investment is required at the start for the creation of artificial tunnels, this will provide long-term ROI due to the natural benefits of the landscape such as water and maximize solar energy. Furthermore, other elements are present such as : oxygen, hydrogen, titanium, iron and other minerals. The mission will be divided into three main parts. **FIRST.** Short term plan (6 months to 1 year): Assess site and validate construction plans. Launch of the payload (i.e. machinery: robotics, rovers, drilling etc..) together with 5 astronauts, using the lunar gateway to coordinate the construction phase. The works include building infrastructures: launch pad, solar panels, land communication (satellite constellations), inflatables habitats above lunar surface and finally commence artificial tunnel excavations by utilizing in situ resources for the coating. **SECOND.** Medium-term plan (1 to 2 years): Deploy the habitat modules inside the tunnels and establish the science research laboratory – astrobiology, have 30 scientists to commence research, plus 50 contractors including medical staff. Move towards a close loop system such as obtaining oxygen, water and energy from moon resources. **THIRD.** Long-term plan (3 to 10 years): Targeting space tourism with a plan of having 300 tourists for short stay, 150 supporting staff for medium-long term stay: finally, we commence the development of a Spaceport infrastructure.