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# A BUSINESS STRATEGY TO EMPOWER THE AFRICA SPACE SECTOR BY LEVERAGING EGYPT'S CAPABILITIES

**Abstract**

The Egypt space program is a small contributor to major worldwide space activities and, to date, it focuses mainly on remote sensing and space sciences. Emerging space nations may end up left behind when looking at the needs and infrastructure needed to access the outer space environment and resources and conduct exploration tasks. There is an evident need to leverage capabilities and opportunities for ensuring the growth of the space sector that would not increase the existing gaps between leader countries and emerging countries. This paper discusses a business approach currently used to expand the nation's growth and space sector. Such a strategy comprises three phases closely linked together as parts of a roadmap covering 2023 to 2030. Phase 1 is to establish a permanent analogue base by late 2023 for opening the way to new fields of space sciences, such as applied space sciences, new educational programs and international collaborations. Such a base will be built in the Egyptian desert, specifically in the western desert, which has a similar environment and landscape to Mars. Analogue bases are facilities created to run simplified space missions on the ground and apply scientific efforts in an operational scenario. Also, such bases are instrumental in conducting educational programs and outreach. Phase 2 is to establish an institute dedicated to space life sciences by 2024 to 2027. The goal is to conduct research not limited to advanced human-centred studies (like dry immersion studies and bed rest studies), space pharmaceutical studies and more. Such an institute would also oversee the telemedicine program's implementation using satellites in Egypt and Africa to benefit the local population. Phase 3 provides a vital contribution to the manufacturing and engineering industry involved in designing habitable vehicles for space and extreme activities. By 2027-2030, the African space sector's infrastructures and resources are expected to start the design and testing of space vehicles and capsules to bring African astronauts into space from African lands. In the end, the authors acknowledge the contribution of the Egyptian Space Agency and the Space Generation Advisory Council in this work, together with other Parties heavily involved in analogue missions and space educational programs. Please note that the present abstract is submitted under the Space Generation Advisory Council's auspices as part of the research conducted within the Space Exploration Project Group.