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Is Space R&D Truly Fostering A Better World For Our Future? (2)

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AN AFRICAN SPACEPORT – R&D BENEFITS

Abstract

The proliferation of small launch vehicles and resulting space ports, begs the question of the feasibility of a spaceport and space technology on the society in Africa.

A spaceport would bring the benefit of space to the ground in the following for areas of technology:

Communication

Advanced manufacturing

Space transportation systems

System to live in space

Space resources utilisation

We promote a spaceport in Africa in the first instance for access to space in support of critical space infrastructure in the areas of navigation, communication, remote sensing and space resource utilisation. But equally important the perspectives and skills required to be successful in space, are important to work with the limited earth resources that has been impacted by climate change and population density on earth. Knowledge of space enables us to solve a larger set of problems on earth.

Spaceports around the world are developed to provide access to space and to foster the technology ecosystems that surround them. We expect a spaceport in Africa to provide the same benefits. In addition the social impact developmental agenda is expected to have an even bigger impact as a result of the space for impact departure point.

The paper will cover the following topics. The basic requirements for space ports. A review of the available launch sites that have been used before in Africa viz. Malindi, Kenya and Bredasdorp, South Africa. The paper will proceed with a review of five critical technologies for space resource utilisation, living systems, advance manufacturing, communication and space transportation and the impact on each of them on improving life on earth. In closing the paper will reflect on the expected economic impact of a spaceport and the related RD activities around it. A spaceport in Africa opens the door to increased African participation in accelerating the Space economy in low earth orbit, geostationary orbit, cis-lunar space and beyond. Further outcomes expected are growing quality space talent and supply chains through developing the capabilities to enter strategically targeted industries.