

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Services, Missions, Operations, and Facilities (2)

Author: Mr. Guido Schwartz
Foundation for Space Development South Africa, Germany, african.anomaly@gmail.com

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Abstract

Today's global space infrastructure was implemented institutionally driven, based on state funds and according to geo-political realities. Launch pads were located in major space-faring nations, in non-optimal geo-locations. Lately with the global NewSpace movement, spaceports emerge in places like Australia, Scotland, Portugal or New Mexico. All of those launchpads share the geographical position isn't fitting the environmental realities of our planet. The world's only optimal launchpad is located in Africa, directly at the equator. This pad was used by NASA and the Italian space agency for years. Sounding rockets took off for scientific experiences. Lately Italy and Kenya signed a memorandum to reactivate the facility after it was long neglected. Scaling this by NewSpace means a sustainable approach could establish a commercial launch site for the continent and beyond. A Spaceport in Africa will be a serious game changer for an environmentally friendly space regime. A gate into orbit that is more cost-effective, innovative, well-located and especially eco-friendly, enabled that serves the global space community. Africa with its NewSpace entrepreneurs and continental space ambitions would drive this. Today cubesats even for constellations, space equipment on ESA standards get developed while universities design small launchers and local SMEs start to expand into Europe or the U.S. Africa's space sector is emerging. The African population is growing massively and will double until the end of the century. Space will play a crucial role here regarding connectivity, earth observation and even access to space. A spaceport that serves the continent and enables the international community to realize a green space economy would facilitate all those aspects in a sustainable manner.

Africa could offer commercial, institutional and even touristic launches. The continent would combine its natural habitats, unique wildlife with accommodating space tourists. Commercial space mining missions could be located at this spaceport considering the vast mining expertise that the continent offers. Test habitats for living on Mars, Moon and in space could be installed in proximity to the Spaceport and prepare humans to live in orbit or on other planets. New technologies could be developed based on the direct needs for a sustainable space economy in all means. From the beginning the launchpad should be aiming for an environmentally friendly launcher that uses effectively existing natural resources and does not harm and pollute our planet. Spaceport Africa has the potential to be a key driver for a sustainable global space commercialization.