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GHANA HAS ITS SIGHT SET TO SPACE, HOW IT IS NECESSARY AND THE LEGISLATION TO REFLECT ON IT

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Introduction. This article discusses the space Economy of Ghana, explains how Ghana launched its first satellite and the benefits it has brought to the nation. It also evaluates the problem with Space laws which currently Ghana does not have and finally the new possibility of launching a second satellite.

Overview of the Space Economy in Africa:

Because of remarkable progress in space technology, space is no longer just a place to gaze at the stars.

The socioeconomic gains that can be realized via the application of space technology and research are limitless. Agriculture, disaster management, healthcare, environmental surveillance, transportation, and Urban development are

GhanaSat-1 is really the first artificial satellite constructed and launched into space by Ghanaian engineers. On Friday, July 7, 2017, Ghana, through All Nations University College, became the first country in Sub-Saharan Africa to launch an educational satellite, Ghanasat-1, into earth orbit, 60 years only after Russia, which was then the Soviet Union launched the first artificial satellite into space.

The three young space engineers responsible for the satellite's construction have successfully placed Ghana on the global scene of space operations. Mr. Benjamin Bonsu (Project Manager), a PhD student in Applied Science for System Engineering, Mr. Joseph Quansah Neenyi Kojo-krobo, and Mr. Ernest Teye Matey of the University of Ghana are the participants.[3]

GhanaSat-1, was launched from Florida's Kennedy Space Station as part of the satellite Bird Project in 2017. Ghanasat-1 was developed as part of the Birds Initiative, which is a joint project led by Prof. Mengu Cho of the Laboratory of Spacecraft Environment Interaction Engineering at Kyushu Institute of Technology (LaSEINE, Kyutech) in Japan. The Birds Project was created purpose of providing students from non-space faring countries with hands-on experience in the satellite production process, from mission design to satellite disposal.

Despite the fact that the Satellite product cost \$100,000 USD, the All Nations University has committed a total of roughly 500,000 USD in its space research operations. Just after successful launch of SpaceX falcon 9 cargo launch to the ISS on June 3, 2017 from the Kennedy LC-39A launch site at 21:07:38 UTC, Ghanasat-1 was launched from the International Space Station (ISS) under the JAXA/Kibo Cube Sat Deployment Programme on July 7, 2017. Despite its 1000g weight, Ghanasat-1 has a somewhat two years endurance in orbiting.[4]

Space laws on Ghana space Economy:

Ghana might be pursuing worldwide practice in establishing space legislation. Many countries have passed similar legislation. Russia and the United States are among them, as are many other developing states. Egypt, Nigeria, and South Africa, all of which are also on the African continent, have space legislation. A national space legislation will guarantee that operations launched by Ghanaian

engineers or licensed organizations inside the country's authority – whether on ground, vessels, or aviation – and possibly even overseas, are properly governed.[5]

In fact, given the challenges of space activities as well as the quick rate over which technology advances, national space regulations are difficult to address all eventualities. They do, nevertheless, provide some assurance to the public, shareholders, and authorities throughout the event of a disagreement.

Legal provisions also make it easier to comply with international commitments. For example, Article 6 of the Outer Space Treaty stipulates that all space activities must be authorized and continuously monitored by the state. National rules that require space operations to be licensed encourage conformity to the agreement. Article 7 holds states accountable for damage caused by space objects within their jurisdiction, including private commercial companies.[6] A Space Act can be crucial in reducing a state's responsibility by including indemnity measures. The government will next have to endorse it before establishing a legal structure for space exploration.

Benefits of Ghana's Space economy:

By empowering youth in the development of human capability, GhanaSat-1 is now a real tool for leading the charge for space technology.

Following the introduction of Ghanasat-1, the team is trying to properly educate academics through 'awareness campaign,' in which they visit high school students in Ghana and demonstrate how a satellite works.

The deployment of the satellite establishes an economic model for the production of more spacecraft. This will result in a large number of career prospects for recent grads.

Conclusion:

Ghana's space economy is growing and being more functional, thanks to the establishment of more public space projects, the proliferation of terms of investment in entire value chain, long-term digitalization tendencies, and the emergence of new space systems. Work has been started toward GhanaSat-2

certification. The GhanaSat-2 is designed to carry out more practical operations in Ghana and its surrounding nations to tackle environmental challenges [7]

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MODERN TECHNOLOGY FOR FORECASTING NATURAL DISASTERS AND THEIR SIGNIFICANCE FOR HUMANITY

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