

AFRICSIS Speaker Series

Trends and Prospects of Emerging Space Programs, Lessons for Ghana

Summary of discussion

Dec 18, 2013

The space sector has witnessed the emergence of new stakeholders starting their investment in space technology or acquiring their first satellite. These “emerging space programs,” understood as countries investing in first- or second-generation satellites, represent a growing share of global space activity and as such the rationales, models and benefits of these emerging space programs must be assessed to determine why do they invest in space? for what purposes? And under which schemes? While countries have their own specificities, they also share commonalities and, most importantly, lessons learned from early experiences and these experiences can help to guide and shape the development of nascent programs in developing countries such as Ghana who seek to invest in space science and technology.

Governments that wish to start a space program and generate concrete returns on their space investment primarily invest in a communications or an Earth observation satellite. Ghana seeks to develop an earth observation cubesat to monitor illegal mining. However, in the Earth observation sector, these first-generation satellites are usually technology demonstrators, with the objective of fostering government and industry interests in Earth observation data capabilities. Next-generation satellites often consist of operational data supply, meaning that specific end-user requirements have been established. As programs become more developed, commercialization of Earth observation data is more likely to bring a return on investment as most revenue on the commercial data market relate to high resolution. Investing in Earth observation technology is viewed as an accessible, relatively low-cost way of gaining industrial experience in space technologies and can form the base for establishing a national space industry. As such lessons learned for Ghana dictate that it could take some time before operational gains can be made from its initial satellite project, and a long term outlook and investment is necessary to meet the objective of adequate monitoring of illegal mining.

The development of space technologies is also often viewed as an accelerator of social and economic development for a country, benefiting populations, rural communities, various industry sectors, technology know-how, downstream sector, education, universities and more. Most countries have integrated the inception of their space programs inside a wider national plan for science and technology aimed at developing high-tech industries, science and innovation. This is often a key success factor for a new space program to make sure that an investment is not aimed only at buying the space infrastructure, but is actually embedded into a global strategy for technology and service development. As countries progressively build their domestic capabilities, the need for a centralized agency grows in order to lead the space program and clarify responsibilities. As Ghana seeks to develop a national space agency by 2016, it must begin now to think of its long term programs and strategies, and ensure that support and funding is garnered to meet the objectives of a sustainable space program.

###