

International Cooperation for Space Exploration (1)
 International Cooperation for Space Exploration (2) (2)

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CAPACITY BUILDING IN THE AFRICAN SPACE INDUSTRY: DRIVING INNOVATION THROUGH TECHNOLOGY TRANSFER

Abstract

According to Space in Africa, the African space industry is currently worth UD7*billion, and is expected to reach a valuation of* billion by the year 2024. These are tentative and exciting developments, which, while highlighting a desire to build space science and technology infrastructure, also signal a desperate need for capacity building to facilitate the full and coordinated development of the sector. One has only to map the development of the African space industry to recognise that this growth has been a slow and not always steady culmination of efforts amongst different states, housing different capacities and with differing strategies towards the fulfilment of an indigenous space programme. Pre-1990, African countries had yet to develop space programmes in earnest, save for the astronautical ambitions of the Zambian space agency, as well as the nascent satellite tracking activities in the Republic of South Africa. Only during the period 1990 to 2003 did we fully witness a measured increase in the number of active African space programmes, most notably in South Africa, Nigeria, Libya and Morocco which established national space agencies and remote-sensing centres during this period. By the period 2004-2019 we witnessed the most rapid proliferation of space capacity building, with over 34 satellites launched within that period. Typically, the trend in the African context is a diversion of national space capabilities to a governmental ministry, which then delegates this responsibility to a national space agency, which will then coordinate the nation's space ambition, typically without the buffering of a space policy at the time of launch of first satellite. The challenge then is that no two space agencies are alike, and this has resulted in a multiplicity of different standards developing across the industry. What's required is uniformity to build the African space industry. Ever since the United Nations established the Programme for Space Applications, the call for a coordinated approach to space for all space-faring nations has rung loud and clear. So much so, that the African Union Commission, on the 29th of January 2019, promulgated the statute for the African Space Agency. With the growing interest in the Small Satellite market, capacity building programmes at the continental level will contribute to the strengthening of a regional space programme. This paper discusses the progress and potential of dedicated capacity building programmes aimed towards the manufacture of essential spatial infrastructure, the training and education of the African population, the role of international collaborations in fostering innovation and the need for applicable legal and regulatory frameworks.