

# Human Capital Development: The key to unlocking the full potential for space science applications

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**Abstract** – Space science and technology, and the many practical benefits that can be derived from it, provides phenomenal opportunities for monitoring and responding to our socio-economic-environmental challenges. However, to ensure the optimal use of space science and technology in addressing these challenges we need to create a critical mass of data users and remote sensing practitioners. There are many varied models and approaches to building this human capital, but none have shown evidence of making any marked and lasting impact. These models and approaches vary from dedicated centres of learning to distributed networks of piped expertise that focus on postgraduate training and education. What is needed is a more integrated approach for human capital development that extends the full human capital value chain from school learners to professional development. This paper advocates for a hub and spoke model for human capital development, where the hub represents a centralised training facility and the spoke connects the hub with centres of competence, communities of practices and internationally recognised bodies that can be leveraged to provide expertise. We consider such a modality in the framework of formalising South Africa's space programme and highlight the importance of hinging such an approach to the strategic drive of the country.