

# **Bridging the Gap: Aligning Geomatics Education with Industry Needs in Botswana**

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## **SUMMARY**

This study explores the alignment between geomatics education and industry requirements in Botswana, focusing on the experiences of graduates from local tertiary institutions. As geospatial technologies evolve rapidly—encompassing tools such as Geographic Information Systems (GIS), 3D modelling, Digital Twins, and Artificial Intelligence—there is a growing need to ensure that academic programs remain relevant and responsive to industry demands. The research adopts a pilot approach using a hybrid questionnaire comprising both quantitative and qualitative elements, targeting alumni from the University of Botswana and other institutions offering geomatics programs. Key objectives include assessing the extent of knowledge and skills acquisition during tertiary education, evaluating the applicability of these competencies in professional settings, and identifying gaps in the curriculum. The findings reveal that while most graduates acknowledge the relevance of their qualifications and express satisfaction with their training, significant gaps persist—particularly in areas such as business acumen, policy understanding, analytical skills, and exposure to emerging technologies like drones and machine learning. The study highlights the importance of Work-Integrated Learning (WIL) as a strategic framework for bridging the gap between academic instruction and industry practice. Graduates advocate for extended industrial attachments, increased practical exposure, and stronger collaboration between institutions and professional bodies. Additionally, the research underscores the need for Continuing Professional Development (CPD) initiatives to support lifelong learning and adaptability in a dynamic field. By integrating alumni feedback with document analysis of current curricula, the study provides actionable insights for curriculum enhancement. It concludes with a call for a structured WIL framework and CPD programs co-developed by academia and industry to ensure that geomatics graduates are well-equipped to meet the evolving demands of the geospatial sector in Botswana.

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