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Bridging BIM Competency Gaps in Germany's AEC Industry Through Education and Training [MA 264]

The benefits of using the BIM methodology in executing projects within the Architecture, Engineering, and Construction (AEC) industry have mandated its use across different countries, especially in Germany, where it is mandated for all federal government projects. This growing use of this methodology has led to the search for professionals who are BIM competent, and HEIs are incorporating BIM education into study programs. This study presented a comprehensive overview of the competencies demanded by the AEC industry by analyzing 100 job postings across Germany. While the competencies supplied by the higher education institutions (HEIs) were identified by analyzing 17 HEIs, encompassing 32 BIM modules and one BIM program. Additionally, some training programs across HEIs were identified. The results of this research show that in the AEC industry, most BIM-related job roles were advertised by the engineering companies. In addition, technical and non-technological skills making up the competency were identified. It was discovered that BIM education in HEIs is sufficient for delivering the basic knowledge of BIM, while the advanced aspect is significantly not covered or missing. Competency gaps were identified using a competence matrix. This study aimed to identify and bridge the competency gaps through education and training. Based on the analysis, some areas that require adjustment in BIM education were proposed, backed by industry experts' insights. The focus of these recommendations was to ensure that HEIs help students improve their practical experience, efficiency, and relevance in the industry. This will help prepare them to be industry-ready to fill the growing demand for well-trained BIM workforce.