

# Utilizing Digital Transformation Technology at Construction Sites to Mitigate Workplace Incidents and Enhance Safety Practices within the Construction Sector

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**Abstract:** *The Objectives of this project work is to look into the DT digital transformation of the construction sector, more specifically to the impacts of AI for workers and work-environment safety. The scope converges on the more tangible consequences of safety rather than health and focuses on the impact on safety roles and performance as well as implications for jobs and collaborative dynamics between construction organizations. The thesis pushes forward the current state of safety performance and collaborative relationships both in theory as much as in practice and stresses the shift of performance measurements and success factors for the former as well as the roles and goals for the latter.*

*The construction sector is a considerable contributor to a country's economy. For example, there are more than 300 000 people employed in the construction sector in INDIA. Unfortunately, workers' safety is a big problem in this high-employment sector since the potential risk for injury is high. In INDIA workers in the construction industry are among the most injured, both in terms of work-related accidents and occupational injuries. With more technology advances, there has been an increasing interest in the construction sector regarding new technologies in recent years which also includes occupational safety and health technologies.*

*The results provide a list of different types of safety technologies that have been investigated previously and a versatile overview of safety technology's development process, adoption process, and facilitators and barriers for a successful adoption.*

*This study points out the benefits of utilizing safety technologies and provides extensive information regarding the adoption of safety tools that could encourage engaged actors in the field to strive for more safety technologies which could lead to a safer work environment and healthy worker.*

**Keywords:** Digital Transformation, Safety, Construction, Incidents, Smart city, AI, Safety management, risk assessment, 3D modeling, real time monitoring etc.