

Technological Intervention to Improve Tower Crane Safety through the Development of Anti-Collision Devices

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Abstract: *The rise of extensive construction initiatives has led to an increased utilization of tower cranes, which are vital for managing materials at considerable elevations. Nevertheless, as the density of cranes in close quarters escalates, collisions have become a critical safety issue. This manuscript delineates the conceptualization and execution of an anti-collision apparatus for tower cranes, with an emphasis on facilitating secure operations within congested construction environments. The proposed framework employs sophisticated technologies, including GPS, sensors, and instantaneous data transmission, to oversee crane locations and issue collision alerts. Through the integration of real-time data analysis and automated control, the system contributes to preventing crane collisions, thereby safeguarding personnel and minimizing project interruptions*

Keywords: Tower cranes, Anti-collision device, Safety, GPS, Real-time monitoring, Construction