

USING ARTIFICIAL INTELLIGENCE TO DETECT BLIND SPOTS

ZHENG KENG ENGINEERING & CONSTRUCTION PTE LTD

To enhance safety and productivity onsite, Zheng Keng Engineering & Construction Pte Ltd has installed Artificial Intelligence (AI) Blind Spot Detection Cameras* in three of their telescopic forklifts, since February 2022.

Utilising AI camera sensors via five cameras positioned on the operator's dashboard, this technology accurately detects individuals and alerts the operator to their surroundings. Unlike proximity ultrasonic sensors, which do not distinguish between humans and objects, this system offers heightened accuracy in detecting individuals, helping to prevent accidents. When people are detected at blind spots, a visual-auditory buzzer illuminates and emits a sound to alert both the operator and those detected. In addition, the technology includes a camera in the cabin which monitors driver behaviour and detects signs of fatigue.

When needed, camera footage can be retrieved for investigation and education to prevent incidents. Since the installation of these cameras, the SME has seen the number of vehicular near misses reduced from about five to zero each month. Productivity levels have also risen as operations run smoother. As there are lesser damages to vehicles, the repair costs and downtime for the forklifts also decreased. Additionally, workers are now more aware of surrounding forklifts, and forklift operators are more confident at work with a better view of their surroundings.



Visual-audible buzzer with illumination



Proximity AI camera mounted on top of the telescopic forklift



Operator dashboard monitor

Challenges faced

The technology offered flexibility and can be customised to suit different needs. However, there were some challenges in customising it to suit the company's needs. It was initially difficult to customise the camera's distance of discovery based on each site using the mobile configuration application. The technology provider assisted in the setup and conducted training to guide the company in tailoring the system to suit their needs.

**The AI Blind Spot Detection Camera was procured from Nettbox Pte Ltd*



Thoughts and reflections:

"The management team wholeheartedly endorses the AI Camera Blind Spot Detection Sensor for telescopic handlers and believe it has become an indispensable asset in our pursuit of excellence. The technology has not only elevated the safety standards within our organisation but has also positively impacted our bottom line through increased operational efficiency and optimised equipment management." – **Francis Ung, Project Director**

"The technology has enhanced my day-to-day operations, creating a safer and more efficient working environment. Manoeuvring the telescopic handler becomes a smoother and more controlled process, contributing to overall job satisfaction and performance. I believe the technology has set a new standard for operator safety, and I am proud to be a part of a team that prioritises innovation for the well-being of its workforce." – **Mariyappan, Telescopic Handler Operator**

