




13.000 m<sup>2</sup>  
of Warehouse  
Area



70+ Pedestrians



19 Material  
Handling  
Equipments

**Background**

Vaillant Group is a company with more than 12,000 employees and a globally leading provider of sustainable and responsible system solutions and services for heating, cooling, and hot water. Vaillant Group provides service in Turkey with 3 brands: Vaillant, DemirDöküm and Protherm.

**Challenges**

Achieving the zero accident target and avoiding forklift-related accidents that may occur if precautions are not taken in all factory areas. Providing a safe zone for the employees. Overcoming the safety hazards that arise from the high density of forklifts, the blind spots, and the lack of accessibility to lone working employees.

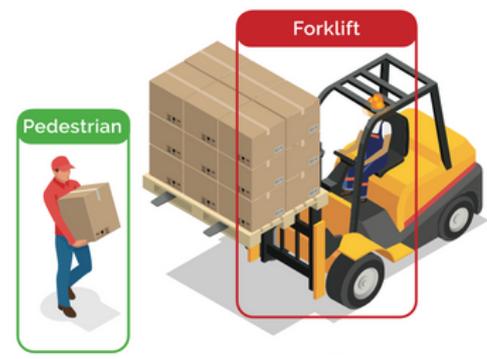
**Technologic Solutions**

As Trio Mobil, we have worked on installing Forklift Safety and Collision Avoidance System and Lone Worker Safety System advanced with UWB technology that allows high location accuracy in the facility with the aim of overcoming the safety hazards in the DemirDöküm Bozüyük Plant.

**Forklift-Pedestrian Safety Solution**

Blind spots are one of the most dangerous safety hazards in the warehouse.

When the pedestrian enters the pre-determined danger zone, the forklift automatically slows down gradually and creates visual and audible alarms for the forklift driver. Therefore possible collisions between pedestrians and forklifts would be prevented.



**Forklift-Forklift Collision Avoidance System**

Due to the high volume of forklifts and the loud environment of the warehouse, forklift operators might have difficulty seeing the other forklift arriving. Trio Mobil's pioneering UWB technology creates visual and audible alarms while slowing the forklifts down to prevent accidents that may occur.

## Zone-based Forklift Speed Control System:

Developed by experts for the operations in the warehouse, Trio Mobil Forklift Speed Control System has been implemented into the DemirDöküm Bozüyük Plant with 40 zone anchors. Sectional doors are usually very dangerous instruments to work with, and forklifts may have the risk of being crushed under the door. When the forklift approaches the door thanks to our advanced technology forklift is able to automatically slow down when approaching the sectional door and trigger the door to open.



The vehicle's speed in the speed-limited zone is determined as a maximum of 10 km/h inside the warehouse. It has been installed in 19 forklifts at the moment.



## Lone Worker Safety System:

The lone worker safety solution is designed as a lifesaver solution for the personnel working alone in the factory's secluded areas. When the personnel is inactive, the system detects the motility and sends automatic notifications in the form of messages and emails, increasing the response speed in cases of emergencies. This solution is highly helpful on the night shifts as well.



"We've experienced a significant increase in the safety of our internal logistic operations after implementing Trio Mobil's solutions into our facility. That's because Trio Mobil helped us to prevent collisions before happening and decrease near misses significantly. Our employees feel safer when working, and we see the positive effects in our workplace."

## Results:

- The number of near-miss cases has significantly decreased.
- Safe working environments for pedestrians have been ensured.
- Contributed to the uninterrupted continuity of workflows
- Increased employee satisfaction and engagement.
- Material and machine costs due to accidents have decreased significantly.
- Taking quick action in risky situations that may arise for employees working alone and preventing vital risks have been ensured.



## AHMET ALKAN

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