BEST PRACTICE

LOCATION:	**Company-wide**	**ARTICLE YEAR**	**2017**
ACTIVITY:	**Transport & Logistics / Delivery**	**COMPANY:**	**Sibelco**
SUB ACTIVITY:	**Mobile Plant**	**COMPANY LOCATION:**	**Kingsteignton and Brassington**
BEST PRACTICE No:	**BP1993**	**COMPANY TEL:**	**07710 703292**
COUNTRY OF ORIGIN:	**United Kingdom**		

TITLE

Working in partnership to protect pedestrians from forklifts

ARTICLE

DESCRIPTION

Forklift trucks represent a significant risk of injury to workers on- site. Sibelco recognised that these risks must be reduced through effective traffic and pedestrian management, driver competence and, crucially, safe working behaviour.

However, traffic management inside process plant buildings can be difficult. The need for frequent and close operational interaction between process operatives and forklifts often remains, especially in bagging and palletising operations which are not fully automated. In situations like this, pedestrian proximity detection systems provide an extra layer of safety. They can help to overcome potential lapses of attention among even the most competent and conscientious pedestrians and forklift drivers.

Sibelco selected two proximity systems for trial after some initial research using criteria based on the sensing technologies, cost, and importantly, a high level of backup and technical support.

Avonwood Zonesafe

RFID (radio frequency) system. It detects special tags which are worn by each pedestrian. Offers 360° detection of pedestrians within an adjustable range of up to seven metres. Trialled at Kingsteignton-site in Devon.

Arcure Blaxtair

Stereoscopic camera based system. It uses clever algorithms to recognise the shape of the human form. Offers detection of pedestrians only at the rear of the forklift within an adjustable zone. Trialled at Brassington-site in Derbyshire.

Local project teams (site managers and supervisors) and local workforce champions were appointed to oversee the trials. A project manager acted as liaison and facilitator to support the site level implementation. Toolbox talks were developed and delivered to front line employees, by the local champions, to raise awareness of the functioning and capabilities of each system.

Throughout the trial periods, front line operatives (including process operatives, forklift drivers, contractors, truck drivers, weighbridge operators) were asked to complete feedback forms to give their open and honest opinions about each system. More than 175 feedback forms were completed.

Regular update meetings were held involving the equipment manufacturers, as part of a project review cycle. This continuous review cycle brought about minor modifications to the initial installations to improve system performance and major developments in terms of product innovation.

During the trial it was quickly recognised that a high level of false alarms were being generated in the bagging plant by the Avonwood Zonesafe tag-based pedestrian proximity system.

Operatives were in a safe position but because of the close proximity to the forklift the alarms were triggered. The false alarms could lead to the alarms being ignored or even worse – switched off.

The project team came up with a solution involving a small, short range radio transmitter installed above each bagging station. This transmitter would emit a coded radio signal, effectively telling nearby pedestrian tags to 'stay quiet' and not emit a return alarm signal even if they sensed a forklift approaching. The quiet zone was the area in which the operator was in a safe position even though potentially close to a forklift. If a bagging operative were to leave this quiet zone, his tag would quickly return to its normal behaviour. Unnecessary false alarms were eliminated by this innovation – the Q Antennae.

BENEFITS

- Sibelco has implemented a global standard for mobile equipment safety
- A pedestrian detection system will be installed on Sibelco's 600 + fleet of forklifts
- Learning from trials assisted other sites in their selection and successful implementation of pedestrian proximity systems
- High level of worker involvement in trials enhanced outcome
- Proximity system enables quiet zones to be established within 10 cm accuracy
- A safer and more efficient system of operation.

ARTICLE IMAGES