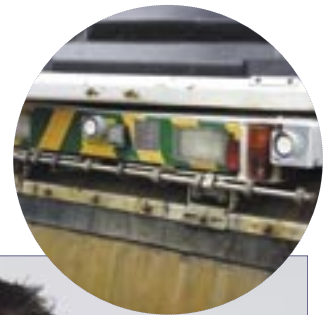


SOLUTIONS

THE ESSENTIAL NEWSLETTER FROM SPILLARD SAFETY SYSTEMS



Award of Excellence



Welcome to the third edition of Solutions. In this edition I am very proud to be able to inform you that I recently accepted an award on behalf of Spillard Safety Systems for one of the new products we recently launched at SED 2007.

VCAS (Vehicle Collision Avoidance System) was the overall winner in the earthmoving equipment category of the SED Awards for Excellence. This prestigious award is a credit to all our staff who have worked extremely hard over the last two years, developing this exciting new product into something we can be justifiably be proud of and which takes yet another step towards making the industry ever safer.

I would also like to take this opportunity to thank everyone who took the time to visit our stand at SED to see the many products we had on display - hopefully it was not just the chance of refreshments that tempted you to visit! I now look forward to seeing faces old and new on our stand at the Hillhead quarry show which takes place near Buxton on the 26, 27 and 28th June.

Finally, good luck to all of you taking part in our third annual golf day in July. I'm confident that Craig has organised yet another outstanding event which will be as enjoyable and competitive as previous years.





ESP

Rear view CCTV systems have been a part of every day life for a number of years on many industrial sites. Because of this, driver complacency is now an important factor to consider when selecting the correct visibility solution for any mobile work equipment. The driver will possibly be so accustomed to glancing at the monitor of a CCTV system that, at a critical time, he may not notice a person or object behind his vehicle within the image.

Optronics ESP takes the rear view CCTV system to the next level of safety by seamlessly integrating it with object detection radar. The monitor mounted within the cab permanently displays rearward vision, much like a rear view mirror. On selection of reverse gear the radar system becomes activated and if a person or object is detected, the driver is alerted by both an audible warning and visual distance markers overlaid on the image on the monitor. Optronics ESP therefore gives the driver an all encompassing alert to potential hazards behind the vehicle.

Optronics ESP combines the Optronics OPT5600 rear view system with the PreView object detection radar system. Both systems are well respected within the industry, giving long service life in conjunction with the excellent back up support of Spillard Safety Systems.

1m Rule – Where's yours

We have now given away almost 10,000 metre sticks to assist sites in completing their own visibility assessments, however I'm not entirely convinced they've ended up at the intended destination – So what have you done with yours? The most comical or far out use will be awarded with a bottle of bubbly. Please register your entry at www.forum.spillard.com or email ruler@spillard.com

VCAS

Two years ago we were approached by Tarmac National Contracting to assist in the development of an automated braking system for its fleet of hydrostatic asphalt rollers following a fatality in the United Arab Emirates.

The initial criteria laid down was to provide a system which could detect at 5 metres, brake at 3 metres and stop within one and a half metres of the detected person or object - great, nice and simple then!

Spillard Safety Systems has always maintained that safety systems should never take the onus away from an operator, provided that they have had the correct training, have chosen the most suitable machine for the job and have installed the appropriate safety equipment. However, having little previous experience of working with asphalt contractors, it became evident when carrying out feasibility studies that an automatic braking system could be beneficial for this specific type of application and working environment.

Development

Following feasibility studies the final specification agreed with Tarmac was as follows: Front and rear detection active dependant upon direction of travel. Red light to illuminate with external and internal audible warnings if detection is made within the 5 metre secondary zone. Red light to illuminate with external and internal audible warnings if detection is made within the 3 metre primary zone together with the triggering of a hydraulic brake valve bringing the roller to a controlled halt.

According to Pete Spillard : 'If you need a vehicle to stop within a specified distance using an electronic system you first need to find out whether that vehicle will stop manually within that



distance. As speed can be variable this test was carried out at maximum speed - Unfortunately the roller did not stop! So, to achieve Tarmac's criteria, a constant of 7kph was agreed. This would become our first hurdle, as once the system was installed we would have to convince the operators that a reduction in speed was a good thing!

The nature of work carried out by these machines dictated quite specifically



that no detection could be made outside the front and rear envelope of the machine. This lead us towards using only one type of detection technology – ultrasonics. This route was also somewhat dictated by a previously installed product. Experience of this technology did not bear well but rather than use parking sensors with their false alarms and variable detection distances



we decided to investigate industrial ultrasonics with minuscule percentage tolerances and multiple programming options.

Considerations also had to be made for fail safes and noise pollution. The front and rear audible warnings utilise white noise broadband sound technology. In addition to emitting a regular 'ssh...ssh' sound in order to avoid worker complacency a verbal warning of 'move away' which intensifies in the primary zone is also given. White noise is directional and dissipates more quickly than conventional alarms to avoid unnecessary residential complaints. A management facility is also provided to disable the audible warnings for night time working. The fail safes deployed within the system ensure that if power is lost or cables damaged the vehicle will not move.

Construction and installation of the first prototype began using the same principles as used with all our industrialised products. Plug and play for ease of installation and service and robust enough to withstand a minimum of 36 months service in some of the most arduous conditions. To this end all cables were stainless steel braided with military specification IP68

interconnects. Internal and external control box housings were waterproof and all lighting products were fitted with long life LED's.

The first prototype was installed on a deadweight roller. However one of the fail safes will not allow the roller to move until direction of travel has been detected. With no electronic method of determining direction of travel on this type of machine a manual system had to be incorporated. This led to our second hurdle - a manual lever would work, but what happens when you only have a neutral signal...?



The Final Product

Two years on and after many operational and system compatibility issues there are now in excess of 75 VCAS Vehicle Collision Avoidance Systems successfully working in contracting fleets across the UK. As the ultimate reliability test we have several units working under the extreme conditions of the Middle East sun in the UAE and Oman. A daily test regime was drawn up and a smooth and efficient procedure has been developed which is required to be conducted at the beginning of each shift. In addition, an education programme should be adopted for both drivers and co-workers.

VCAS is the ultimate safety aid for this type of working environment. VCAS will slow down the process of laying asphalt but, if this is acceptable, it will make your site significantly safer.

Optronics Wireless

Over the past few years radio technology (wireless) has come on in leaps and bounds. Long gone are the poor fuzzy pictures susceptible to interference, with quality only available to media companies with huge budgets. This breakthrough is mainly down to the wireless computer age. By harnessing this technology wireless has become affordable. Spillard Safety Systems is utilising this technology more and more for specialist installations, whether it be load placement, crusher observation, hazardous material monitoring, the list goes on. Below are a couple of case studies from recent installations.

Case Study 1. Tarmac Swinden

Spillard Safety Systems of Gailey in Staffordshire has recently installed a 'wireless' camera/monitor system on a 182 tonne Cat 5130B excavator at Tarmac's Swinden Quarry in Yorkshire.

The system, which utilises the same proven components found in Spillard's standard rear view CCTV packages, has replaced an unreliable different make set-up which enables the operator to remotely monitor inside the throat of a Nordberg LT160 mobile jaw crusher being fed with blasted limestone by the Cat's 8 cu m capacity bucket. The clear colour images are transmitted to a monitor located in the cab using the state of the art transmission equipment previously only available exclusively for use in the broadcast industry.

Case Study 2. S. Nortons

Spillard Safety Systems of Gailey in Staffordshire has equipped a pair of Liebherr R984 120 tonne ship loaders with wireless CCTV systems to enable the operators to accurately and safely load prepared scrap metal into ship's holds at Liverpool Docks without the need for banksmen.

The two machines form part of a large fleet of equipment operated by S. Norton & Co, one of the UK's leading metal processing and recycling organisations currently exporting hundreds of thousands of tonnes of scrap metal per annum, principally to the Far East.

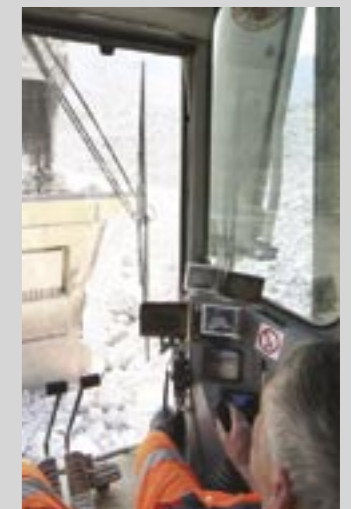
Loading 40,000 - 50,000 tonne capacity ships at a rate of approximately two per month, the pair of Liebherr machines can now distribute

All Spillard equipment has been designed to operate within the harsh environment of the quarrying and construction industries to ensure trouble-free operation - even when the camera is mounted onto a crusher, as at Swinden, and has to withstand significant amounts of vibration.

The 5130B was already equipped with a pair of Spillard rear facing cameras linked to in-cab monitors to allow the driver to see down both sides of the machine and, as these have been fault-free ever since they were fitted some five years ago, Tarmac was very pleased that Spillard was able to come to the rescue with a replacement wireless system.

Swinden Quarry currently produces some 2M tonne of limestone per annum, all of which is handled by the Cat

machine - making it a vital member of the mobile plant fleet. Tarmac is confident that, with its new Spillard system installed, the 5130 will now be working at maximum efficiency and without the worry of frequent ancillary equipment failures.



loose and baled scrap evenly within the holds for maximum stability and without causing any contact damage to the ship - a main concern of Nortons. This accuracy is achieved by the operators being able to clearly see the clamshell grab attachments when lowered into the ships hold on the screens of cab-mounted colour monitors. The crisp images from cameras temporarily mounted to hatch combings are transmitted through 5.8GHz wireless transmission systems; the 5.8Ghz frequency will support

additional channels should further machines be added to the company's fleet in the future.

According to S. Norton's operations manager Dave Matthews: "We have been using Spillard equipment on some of our other mobile plant for several years and so were very happy to install these new wireless CCTV systems which are proving perfect for the job and have saved the cost of the extra staff that used to act as 'spotters' for the crane drivers."

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Web Acronyms

- AFAIK – As Far As I Know
- AKA – Also Known As
- ASAP – As Soon As Possible
- B4 – Before
- BIN – Buy It Now
- BTW – By The Way
- CUL8R – See You Later
- FFS – For Freak Sake (polite version)
- FWIW – For what it's worth
- FYI – For Your Information
- IIRC – If I Recall Correctly
- IMHO – In My Humble Opinion
- IMO – In My Opinion
- L8R – Later
- LMAO – Laughing My Ass Off
- LOL – Laughs Out Loud
- M8 – Mate
- NARU – Not A Registered User
- NP – No Problem
- OMG – Oh My Gosh
- OP – Original Poster
- OT – Off Topic
- PLS – Please
- POV – Point of View
- ROTFL – Roll on the floor laughing
- TIC – Tongue In Cheek
- TTFN – Ta Ta For Now
- VFM – Value For Money
- VHTF – Very Hard To Find
- WTF – What the Freak (polite version)
- WTG – Way To Go!
- WYS – Whatever You Say
- WYSIWYG – What You See Is What You Get

Link to <http://www.acronymfinder.com/>

Our services

- Customised solutions for your safety issues.
- Nationwide installation service by our experienced team of in-house engineers.
- Machine visibility assessments.
- Mobile plant safety systems audits.
- Operator seat vibration measurement.

Our product range

VISION

Convex mirrors and CCTV systems



DETECTION

Radar and Ultrasonic alarm systems



COMFORT

Operator seating



RESTRAINT

Replacement seatbelts



WARNING

Strobe safety lighting

allroundalert

CONTROLS

Diesel engine management systems



FLIGHT SYSTEMS

Our team



Pete Spillard
Managing Director



Craig
Director



Vic
Director



Richard
Office Sales Manager



Carla
Sales & Admin



Jean
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Roy
Warehousing



Ned Edwards
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Michael, Jason, Andrew, Steve, Andrew - Engineers
Ryan, Matt - Apprentice Engineers (inset)



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