

THE MAGAZINE FOR THE MATERIALS HANDLING PROFESSIONAL

### A sure measure

How can OEE be applied in warehouse and lift truck management to raise performance levels?



### **Cross docking**

We take a detailed look at this apparently simple warehouse process. Is it the panacea it promises to be?

### Why buy green?

*How the economics of buying, operating and even selling sustainable lift trucks stack in your favour.* 

# Safety performance

A new initiative to standardise statistics on safety, and create a reliable benchmarking tool.



# eureka

### The magazine for the materials handling professional

### elcome to the Autumn 2013 edition of eureka!

It is often said that statistics can be twisted to support almost any opinion, and we see this happening often enough in the political and financial spheres. In operational logistics, however, reliable statistics are essential if we are to identify operational issues and inefficiencies, and improve business performance. Only by gathering data accurately and consistently can we identify areas that require improvement, make changes to operational processes and then monitor progress in performance.

In Treading the measure (page 4), we look at the manufacturing and engineering measure. Overall Equipment Effectiveness (OEE), and show how it is being applied in the materials handling and warehouse environments to improve performance, for example by reducing picking errors.

Further into the magazine, we put the deceptively simple concept of cross docking under the spotlight. In use since the 1930s, cross docking has gained ground recently as a valuable tool for cutting costs and increasing efficiency. In Boosting output with cross docking (page 8), we review the conditions, organisational processes and IT infrastructure that are necessary if cross docking is to work effectively, helping you decide if it is the solution for you.

Being 'green' is often seen as fashionable. In Why sustainability makes economic sense (page 11) we demonstrate that it is far more than just a good feeling, but can add significantly to the bottom line. Here, we walk you through the complex considerations involved in selecting a forklift truck that has a reduced impact on the environment and delivers financial benefits

Our final article, How do you compare? (page 13) looks at a new statistical benchmarking framework being developed in the UK by the Logistics Safety Working Group of the Freight Transport Association. Based on a number of easily quantifiable key performance indicators, could it potentially standardise incident reporting across logistics sectors?

Tell us what you think of **eu**reka - drop us a line via our website at www.eurekapub.eu or e-mail us at comment@eurekapub.eu.



lamation of '**eu**reka!'

Monica Escutia Commissioning Editor

Don't forget to visit the **eu**reka website www**.eu**rekapub.eu where you have access to the archive of useful articles and features. You can also post comments and suggestions about the magazine and future articles you'd like to see covered.

Issue 20 - Autumn 2013 *Commissioning Editor:* 

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Productivity **Boosting output** with cross docking makes economic

OEE is a valuable measure for improvement in manufacturing and engineering but is less well known in lift truck management and warehouse By taking a close look at the operations. We discover how easy it is to apply the measure to logistics operations, where it becomes an excellent tool for identifying issues and improving performance.

Measure

Over the last few decades, cross docking has emerged as a strong weapon in the fight for survival. organisational, supply chain and IT infrastructure required to make it work, the environment, cut operational it becomes easier to calculate whether costs, and gain customers through this is the right logistics solution for you.

### **Events Calendar**

Date, Event, Location, Website	Overview
19 - 23 November 2013 SOLUTRANS Lyon, France. www.solutrans.fr	As a biannual trade t innovation and inforr atmosphere, this 12t Transport week, wit led by expert speake
26 - 27 November 2013 <b>SUPPLY CHAIN EVENT 2013</b> CNIT - Paris la Défense, Paris, France www.supplychain-event.com	Reed Exhibitions Gro <i>CHAIN EVENT</i> . Repre Défense bringing tog
28 - 29 January 2014 <b>COOLCHAIN &amp; CONTROLLED ROOM</b> <b>TEMPERATURE LOGISTICS</b> Luxexpo, Luxembourg-Kirchberg, Luxembourg. www.coolchaineurope.com	Luxembourg hosts <i>C</i> temperature controll has brought the com updates and revision the temperature con
25 - 27 February 2014 <b>LogiMAT</b> New Stuttgart Trade Fair Centre, Germany. www.logimat-messe.de	LogiMAT, the Internat Materials Handling at exhibition in Europe.E decision-makers from exhibition centre at S products, solutions a

Editorial/Contents



Sustainability Why sustainability sense

Health and safety How do you compare?

Sustainability is not just a woolly feel-good aspiration. It makes sound business sense. We find out how, by choosing your forklifts carefully you can reduce your impact on improved business reputation.

Finding reliable benchmarking statistics on safety is a nightmare, as reporting is simply not standardised across logistics sectors let alone across countries. The UK's Freight Transport Association is pioneering a new statistical tool which should ultimately enable different logistics sectors to benchmark reliably.

fair for haulage and urban transport professionals, SOLUTRANS is where mation in the HGV sector come together. With an international and friendly th session will welcome you over 5 days of the World Road Haulage and Urban h innovation, professional and commercial exchanges as well as conferences ers

up (SITL) and Supply Chain Magazine have joined forces to create the SUPPLY esenting a new concept, this gathering will take place at the CNIT. Paris la ether one hundred exhibitors and several thousand visitors.

*Cool Chain Europe 2014*, Europe's largest gathering of the cool chain and led logistics community. Over the past few years, Cool Chain Logistics Europe munity and regulatory authorities together to discuss the EU GDP guideline s. It is these discussions and interactions that have helped shaped the future of trolled logistics industry.

tional Trade Fair for Distribution,

nd Information Flow, sets new standards as the biggest annual intralogistics Between 25 and 27 February 2014 international exhibitors and n industry, trade and the service sector will be coming together at the new Stuttgart Airport to find new business partners. The focus will be on innovative and systems for procurement, warehouse, production and distribution logistics.

OEE is an established technique in manufacturing and engineering but is it relevant to lift truck fleet management and warehouse operations?

Ruari McCallion gets out his datasheet.

# Treading the measure



he world of business improvement is so full of acronyms and initials - kaizen, SMED, SPC and so on - that it can be tempting to make alphabet soup out of them and move on. But those letters mean something and most of them have more than proved their mettle in practice. But while single minute exchange of dies (SMED) and statistical process control (SPC) are now widely known, understood and used, that may not be the case with OEE. It stands for "overall (or operational) equipment effectiveness" and is both a means of measurement and a tool for improvement. Along with TPM (oddly, it stands for "maintaining production totally") it has helped to transform performance, effectiveness and productivity where it has been deployed and it has usually been deployed in the context of engineering and manufacturing. Does it have a role in warehouse management, materials handling and the effective operation of a forklift truck fleet?

"OEE stands for "overall (or operational) equipment effectiveness" and is both a means of measurement and a tool for improvement."

The answer to that question begins with understanding what OEE is. It breaks the performance of a manufacturing unit into three separate components: Availability, Performance, and Quality (APQ). Each component will identify an aspect that can be targeted for improvement. OEE may be applied to any individual workstation (or vehicle, in the case of forklifts) or rolled up to warehouse,

department or plant levels. It also allows for specific analysis of, for example, a particular part number, shift, task or any of several other parameters. It will measure performance based on scheduled hours. Performance is compared with both expectations and specification. Improvement strategy is then based on bridging the gap – there will always be a gap – between reality and expectation. It is unlikely that any manufacturing process can run at 100% OEE; manufacturers who adopt the measure tend to set themselves ambitious targets of, for example, 85% OEE. "Performance is a general measure - the

next query is: what to collect?

"Performance is a general measure – the speed of the line, for example. Are you hitting the speed it is designed for?" Pete Austin, Suiko Ltd.

**eu**reka reported (*issue 16*) on the measures that Cat Logistics\* Services is now taking to monitor and manage its fleet. Impact Handling, →

### **Fleet management**

1. OEE has helped transform performance where it has been deployed. Does it have a role in the operation of a forklift truck fleet? 2. Data collection is essential and, as many lift truck fleets now come equipped with performance monitoring equipment and associated software, the means of collection is straightforward.



speed of the line, for example. Are you hitting the speed it is designed for?" Pete Austin, director at Suiko Ltd, a consulting group with offices in the UK, Middle East and Australia. "Availability is uptime and will cover breakdowns and other interruptions. Quality is about defects. OEE is often more about the operator of the equipment than about the equipment itself." Data collection is essential and, as many lift truck fleets now come equipped with performance monitoring equipment and associated software, the means of collection is straightforward. The







- A typical Communication Centre. Boards are used to measure performance. Issues are identified and solutions proposed.
- A Short Term Actions
- B Long Term Actions
- C Daily Measures Results and Practices (over 30 days) with trending

Number of recordable incidents/injuries for the month. Target = 0





→ exclusive distributor of Cat<sup>®</sup> lift trucks in UK, zoned the fleet into customer business units and families of vehicles, and introduced reporting by site and business unit. Job sheet information is collected through wireless technology and transmitted to the central server. The data is collected and collated on Excel spreadsheets, which facilitates the identification of 'Top 10' problem trucks and issues. This provides Impact and its customer with a clear picture of fleet performance and enables the development of effective strategies to improve availability and control costs. In a project undertaken for a major multinational food production company, Suiko created a matrix of information and targets that enabled the company to improve the monitoring of its warehouse operations and, consequently, its performance.

"The data is collected and collated on Excel spreadsheets, which facilitates the identification of 'Top 10' problem trucks and issues. This provides Impact and its customer with a clear picture of fleet performance."

"The numbers work in exactly the same way in logistics as they do in manufacturing," said Mal Reade, consultant with Suiko, who led the improvement project. "We installed boards and measured from the bottom up. We got the drivers to measure their own performance, and the sum of the drivers' performances was the shift performance." Introduction of the methodology followed a familiar pattern of an initial workshop and description of the objectives and the drivers' part in it.

The particular tasks targeted were picking errors, which may appear low-level to operators and to outsiders as well, resulting in a mild telling-off for the drivers, but warehouse managers and administrators are only too well aware that the ramifications are wasteful, timeconsuming and expensive.

"Picking errors generate a huge amount of wasted effort," said Reade. "There is a whole lot of admin involved. The customer rejects the delivery and puts in a claim. That has to be administered. A credit note has to be generated. Re-delivery has to be arranged – some more assertive customers may want immediate remedy." As Just In Time delivery is now widespread, "immediate remedy" might be required in the majority of cases, rather then just a few "more assertive" customers.

### "Picking errors generate a huge amount of wasted effort."

"About half of delivery issues are caused by the manufacturer – not having enough stock, for example – but 50% are caused by the logistics operation, either external or internal, picking the wrong stuff," he explained. "Improving picking delivers a lot of real wins." Those wins may not be seen by the guys doing the actual work but the value and importance have to be conveyed to them – along with the reality that they have the ability to make a huge and valuable difference, starting with measuring the problem. The longer-term plan was to roll the improvement out across plants in the UK, South Africa, Germany and other locations. The drivers' full engagement is essential.

"Most facilities have barcode scanners, so data capture is readily available. Information can be downloaded from a pod on the truck itself," said Reade. Comparing picking performance and errors leads to improvements in stocking locations and stocking policies, such as how much is held, where and how. The very fact of measuring and publicising the results can improve performance, even before formal changes and in place.

### "Comparing picking performance and errors leads to improvements in stocking locations and stocking policies, such as how much is held, where and how."

"If you have two warehouses, one with a team of fully motivated and engaged people, it will outperform" Reade continued. The key measure was completion of pick cycles, which was compiled at the end of shifts and at changeover. It would include measurement of cause, and issues such as non-storable pallets; faulty activation – system errors, effectively; despatch errors; damage; and so on. In fact, anything that had an impact on the ability of the drivers to complete their jobs effectively.

Cat Logistics\* identified vehicle availability as a paramount factor and introduced a system called FTC – fork truck control – to monitor and control damage. Each driver has his own fob, which identifies who is driving the truck at any time. FTC has helped to reduce the number of incidents, identify training needs and modify driver behaviour. Fleet availability is now above 97%. Planned maintenance – and adherence to the schedule – helps to reduce breakdowns. It also helps to identify recurring problems and enables them to be addressed at their core cause. But OEE, like all good ideas, is not a panacea; it is one tool warehouse manager should have available.

### "OEE, like all good ideas, is not a panacea; it is one tool warehouse manager should have available."

"We measure drivers' performances in a number of ways and OEE is one lever we might choose to pull," said Reade. "We can also discuss damage, ideas generation, absenteeism, H&S and people measures. This particular client follows a behavioural-based safety approach, for example; it measures behaviour rather than actions." Improved performance is not the result of a single 'magic bullet'; rather, it is the consequence of a planned and strategic approach to getting the most out of personnel, facilities and even the geography of the warehouse. But OEE certainly helps to measure and manage better.

Article feedback is welcome: ruari@eurekapub.eu

changes and improved practices are put



 Illustration of a typical Communications Centre, implemented as part of OEE.
Shown below it is a typical target graph.
At Cat Logistics\*, job sheet information is collected through wireless technology and transmitted to the central server. The data is presented on Excel spreadsheets, providing Impact and its customer with a clear picture of fleet performance.
50% of delivery issues are caused by the logistics operation making picking errors. Improving picking can make a huge and valuable difference to a business.

\*Cat Logistics was sold in 2012 and is now called Neovia Logistics www.neovialogistics.com.



# **Boosting performance** in the warehouse:

# is cross docking the ultimate panacea?

Changed consumer buying behaviour and harsh economic times compel logistic managers to rearrange their supply chain. Cross docking seems to hold many positive promises, but will it provide a solution for everybody?

### Gian Schiava finds out pros and cons.

recent boom of e-commerce has changed the way we buy goods forever. It has also led to increased expectancies with regard to delivery times, choice and customer service. We read in eureka 19 how new business models are evolving and thriving. In addition to this, overall expenditures are diminishing and it is not difficult to imagine that the battle for market share is harsher than ever before. As a consequence, logistic managers have to turn

stockholding and distribution activities from a support activity into a profit contribution. Cross docking has been around since the 1930s, but has emerged as a strong weapon in the struggle for survival in the past decades. Let's find out how it works.

### What is cross docking?

There are several definitions out there which describe cross docking more or less accurately. But it is probably more clarifying to explain the concept by looking at the basic functionalities of a warehouse. Whichever way you look at it, it boils down to 4 core activities: goods reception, storage, order picking and dispatch. Cross docking basically eliminates most of the costly storage and order-picking functionalities, thereby boosting products towards the shops and customers. Truckloads are unloaded at the entrance docks. The goods are sorted and then placed in aisles from which lorries will be loaded again - in and out in no time.

"Cross docking basically eliminates most of the costly storage and order-picking functionalities, thereby boosting products towards the shops and customers."

Picture 1 illustrates the process guite simply. Suppliers A, B and C deliver their product and then goods are loaded in any combination onto trucks that will depart for the stores. Now this may seem a really simple solution, but in reality it requires a certain category of goods, firm control over information and data, and supply chain thinking, as it can only function properly if there is a close relation with suppliers and distribution partners. We will deal with the goods category later and have a closer look at the other two requirements.

In cross docking many deliveries take place during a single day. Therefore suppliers need

1. Suppliers A, B and C deliver their

2. Cross docking basically eliminates most



checks at reception.

### **Productivity**

to be informed in an accurate and timely way about the deliveries they have to make that day. At the cross dock they need to know which cargo will be arriving at which gate, and where the goods need to be transported. Support tools like Electronic Data Interchange (EDI) therefore seem to be requisites rather than optional instruments. But the process does not stop at informing the supply chain. Cross dockers need to plan deliveries in precise time slots otherwise the cross dock will start to congest. Furthermore, the quality of each delivery needs to be pre-defined as there is no time for quality

"In cross docking many deliveries take place during a single day. Therefore suppliers need to be informed in an accurate and timely way about the deliveries they have to make that day."

We can therefore see that cross docking requires a perfect organization. This extends to the lay-out of the cross docking itself. Cross docks are mostly arranged in an L-formation, but we also come across T and H shapes. A decade ago Bartholdi and Gue, researchers and scientists in the USA, defined a model by which one can calculate the best possible cross dock design. Parameters like the number of gates, distances, buffer spacing and goods turnover all have an influence on the final shape.  $\rightarrow$ 



## **Productivity**

### → Advantages of the cross docking method

Now, we have seen that the apparently simplified logistic activity called cross docking requires perfect organization and military precision, so let us now take a look at the main advantages.

The first is reduced warehouse activity. More precisely, it almost eliminates the need for storage and order-picking. This means less space is required and there is reduced risk for stock keepina.

Having a smaller warehouse leads to fewer personnel and lower staff costs. Cost savings, however, are not the only benefits. The cross docking activity improves delivery times and customer service significantly. Last but not least, enhanced information flows and modern track and trace devices provide the logistic manager with a better overview of the whereabouts and status of goods throughout the supply chain.

"Having a smaller warehouse leads to fewer personnel and lower staff costs. Cost savings, however, are not the only benefits. The cross docking activity improves delivery times and customer service significantly."

Cross docking seems to be ideal for goods with high turn-over, goods that do not require further handling such as re-packing or kitting, and goods that are perishable. Especially in industry segments like food, medical, retail in general and fashion in particular, the method has proved an ideal solution.

### **Disadvantages**

We already saw that cross docking requires a high degree of organization and the use of modern IT technologies. The cost of these could even offset the savings which were made by reducing warehouse space and order-picking activities. Another disadvantage is that supply chain partners may not be ready for the delivery process this requires of them.

Cross docking is also difficult to implement if turn-over is low. Under these circumstances, 'conventional' paces and warehouse set-up are enough to get the job done. Finally we already mentioned that in cases where you need to add handling activities to the product, it would not make sense to cross dock.

### **Demands on equipment**

It is safe to say cross docking primarily demands speed from the equipment used. From the moment the lorries arrive, the goods must travel through the warehouse at the fastest possible pace. Forklifts, power pallet trucks and conveyor belts need to deliver them to the destined outbound dock within the shortest possible time. Electric trucks with pre-instated performance modes, like the Cat<sup>®</sup> EP16-20(C)PN(T) series, readily adapt to the tough job cross docking demands of them. In confined spaces, smaller counterbalance models or power pallet trucks can be just the right alternative.

### The ultimate panacea

So, is cross docking now the ultimate remedy or solution for all problems and difficulties in the warehouse? We learned about the pros and cons of this warehouse activity, but reality shows numerous factors that need to be considered when making an informed decision whether to implement cross docking. After all, every organization has its own goals and priorities in terms of costs, desired market share, product assortment and supply chain organisation. It pays to visit and talk to professional colleagues to see how they went through the decision process. Share your views and needs with materials handling experts, like your local Cat Lift Trucks dealer, and let them assess your situation. Changes do not need to happen overnight, so take the time to carefully investigate your options.

Article feedback is welcome: editor@eurekapub.eu

### A bit of history

Whilst cross docking may have gained popularity mainly in the last fifteen years or so, it is definitively not a new practice. In the

1930s, it was already in use by the US trucking industry and later by the US military. Wall Mart was probably one of the earliest retailers to implement it within the supply chain successfully. Dutch retailer Ahold developed a strategy called 'today for tomorrow' in the 1990s to enable them to deliver to their shops in the shortest possible time. As their aim is to offer the broadest product range, storage space at the shops was required to be kept as minimal as possible. Cross docking became part of the solution. They developed several variations, using a network of national and regional warehouses. Today, Ahold is market leader in the Netherlands and is expanding its activities in the USA.

3. In 2004, Bartholdi & Gue demonstrated that a rectangle is ideal for facilities with 150 doors or fewer. For facilities with 150-200 doors a "T" shape is more cost effective. Finally, for facilities with 200 or more doors the cost minimizing shape will be an "X".









Read the Wikipedia article on Cross Docking.

# Why sustainability makes economic sense

Being 'green' is very fashionable and it's something that customers are increasingly demanding of their suppliers. What's more, environmentally friendly choices often make the best economic sense.

# In this summary, Mark Nicholson sets out the main considerations involved in selecting a 'sustainable' forklift truck.

t should be stressed at the outset that this article is about making money, not spending money. It focuses on cutting energy, material and service costs, maintaining productivity and making your business run more efficiently. So even if you don't think of yourself as an environmentalist, please carry on reading

But first let's just give a quick definition of environmental friendliness - or 'sustainability', as it is often known. Sustainability means using the planet's resources in a way which ensures they don't run out, and which avoids causing so much damage to the environment that we destroy the quality - or even the possibility - of life in the future.

"Sustainability means using the planet's resources in a way which ensures they don't run out, and which avoids causing so much damage to the environment that we destroy the quality - or even the possibility - of life in the future."

#### **Cut consumption** and pollution

Conservation of the earth's raw materials including fuel - and prevention of pollution and other destructive effects are closely related issues that we often come across when discussing materials handling operations and equipment

One of our most obvious challenges is to reduce our consumption of fossil fuels. As well as using up a limited resource, burning of these materials creates pollution in the form of carbon dioxide and other more directly toxic substances. Everyone should be aware by now that accumulation of carbon dioxide and other 'greenhouse gases' in the atmosphere is causing adverse changes in climate.

In addition to fuel, our industry consumes

materials in the construction and operation of its trucks and associated facilities. Many of those materials need to be disposed of at some point, in which case they become potential pollutants. In this issue of **eu**reka we will stick to the topic of choosing forklifts that minimise our impact on the environment, but similarly sound economic arguments can be made for sustainable choices in the design, equipment and operating practices of the premises that surround them.

### Choose the right power source

large diesel.

Many people automatically assume that an electric truck will always be more environmentally friendly than an IC engine forklift. This is not necessarily the case, but if a business is able to obtain its electricity from clean, renewable sources, such as wind or solar power, the electric truck does become very environmentally friendly.

# the case."

In any case, electric trucks do have a number of other environmental advantages. One is that they require less maintenance and less replacement of worn parts than an IC engine truck. Another is that their performance →

# **Sustainability**

One of the first decisions to make when choosing a forklift truck is what power source to use. This usually means diesel, LPG or battery. Environmental friendliness cannot be your only consideration, as there is no point in buying an especially green truck if it is unable to cope with the work for which it has been acquired. The greenest option will vary between applications and in some cases it might be, for example, a

"Many people automatically assume that an electric truck will always be more environmentally friendly than an IC engine forklift. This is not necessarily





**1.** One of our most obvious challenges is to reduce our consumption of fossil fuels. As well as using up a limited resource. burning of these materials creates pollution in the form of carbon dioxide and other more directly toxic substances.

2. The advanced Cat 48V electric trucks, with canacities from 1.3 to 2.0 tonnes are easily programmable for energy-saving performance and include other green features such as maintenance-free brakes, strong regenerative braking and a long service interval.

# **Sustainability**

→ is highly programmable, so parameters can be set with energy saving as a priority and operators can be 'forced' to drive economically and safely. For indoor duties, where IC engine emissions cannot be allowed, batteries - or perhaps fuel cells in the future – are the only option.

### Target energy efficiency

Having decided on your power source, you will have to look at the green information offered on each model and decide which are the greenest trucks that will match your operational requirements. Key issues will include their energy efficiency, emissions, recyclability and other pollution or waste control measures.

Technological advances in IC engines, like the latest generation of three-way catalytic converters available for LPG trucks, are constantly reducing fuel consumption as well as emissions. At the same time, the energy efficiency of electric trucks is also increasing as electronic technology becomes ever more sophisticated.

"Technological advances in IC engines, like the latest generation of three-way catalytic converters available for LPG trucks, are constantly reducing fuel consumption as well as emissions."

You should also bear in mind that the most advanced electric trucks are the most versatile in terms of programmability. This allows you to configure the perfect performance settings to achieve the balance between economy and productivity that you want. It also means that over the years you can reconfigure your truck to meet changing needs, rather than dumping it on the environment and buying a new one.

### **Consider all costs**

Energy is not the only continuing cost associated with a forklift truck. Another is the expense of maintenance and repairs. It makes economic and ecological sense to pay a little more for a truck whose components are durable, rather than a cheap model that will require regular replacements, more of the service engineer's time and longer periods off duty in the repair bay.

You can look for low-wear technologies such as wet disc brakes, which are virtually maintenance-free. It's also worth thinking about choosing features that will reduce the cost of excessive wear or accidental damage. For example, in some applications a load weight indicator and a lift height indicator will help operators to avoid accidentally exceeding the truck's safe residual capacity.

Forklifts will vary in the amount of coolant, hydraulic oil and other fluids that they use. This can offer an ongoing cost saving, as well as reducing the amount of toxic waste that has to be disposed of at some point.

#### Think of the future

Something else you can consider is how recyclable the truck's components are. This may not make any difference to you, economically, but it won't cost you anything extra to buy a highly recyclable truck and it will add to your green credibility.

Manufacturers like Cat® Lift Trucks build

forklifts with recyclability and remanufacturing in mind. Their construction allows worn-out or outdated parts to be swapped easily, while many of their components can be remanufactured rather than scrapped. Keeping machines in action rather than dumping them is a good green principle. Whether you upgrade or reconfigure parts of the truck yourself, as your needs change, or pass the truck on to a new owner, people and the planet will benefit.

If you choose a durable and versatile truck you will not only be rewarded with dependable performance every day, over a long lifetime, but you will also benefit from a good second-hand price when you decide to sell it.

"Keeping machines in action rather than dumping them is a good green principle."

#### Be proud to be green

As we have seen, it's possible to make environmentally friendly choices which immediately save money or which are good longer-term investments in profitability. There are other green features which don't affect the cost of the truck but do allow you to make a further contribution to protecting the environment.

Having adopted such sustainable choices as part of your corporate social responsibility policy, make sure you tell people about it. It's good news. And if you are feeling generous after saving money in the ways described, you might like to make a donation to a local nature conservation charity. That organisation will undoubtedly publicise your contribution, helping to reinforce the positive message that you care about the environment - which is what today's customers want to hear.

Article feedback is welcome: editor@eurekapub.eu



### Climate change: Is it real?

OK, it's possible to find a few scientists who don't believe in climate change, but you can also find scientists who will argue that the world is flat. Within the world scientific community the vast majority of experts, and particularly those who specialise in studying climate, advise that climate change is a worrying reality and that human activity is the cause. Reducing our 'carbon footprint' by burning less fossil fuel is a major environmental driver and one which at the same time encourages us to cut our fuel bills.



3. The Cat<sup>®</sup> GP15-35N LPG counterbalance truck features a clean economical three-way catalytic converter with closed loop control. Its three key functions are to convert toxic nitrogen oxides into nitrogen and oxygen, carbon monoxide to carbon dioxide, and hydrocarbons into carbon dioxide and water. Closed loop control ensures the optimum mix of air and fuel at all times.

Feeling generous? If you have saved some money by making sustainable choices, why not make a donation to a nature charity to show how green you are?



The Wildlife Trusts:

www.wildlifetrusts.org

compare?

Statistics on dangerous incidents are essential building blocks in the development of improved safety at work. They help us, for example, to understand the scale of each problem and to identify the issues requiring most urgent attention.

Mark Nicholson discovers that statistics relating specifically to the logistics industry are not easy to find and talks to the Freight Transport Association about its new safety benchmarking system.

Ithough health and safety laws vary between EC countries, there are many shared elements, such as the Framework Directive on Health and Safety in the Workplace (1989), and a lot of similarities between the national rules applied. One principle recognised by all is the need to report incidents at work, which means that - in theory - all governments have a good starting point for analysing and comparing safety performance.

The European Agency for Safety and Health at Work ('EU-OSHA') collects statistics from agencies in each country. These are collated, analysed and reported upon by Eurostat, the statistical office of the EC. Because each country has its own systems and criteria for data collection, the information is not always directly comparable between all. However, there is sufficient agreement to allow some very useful conclusions to be drawn.

So if we want to know, for example, how many

incidents occur each year in the freight-by-road industry, we should be able to find a Eurostat report containing the relevant figures...

'freight-by-road logistics'.

happening at a workplace.

The result is that there is no easy way of finding out how safe or unsafe logistics is, or of comparing your company's safety performance with an 'average' company, by looking at the Eurostat or individual country agencies' reports.→



In practice, it's not possible to answer that question even within an individual country. When an incident involving a goods vehicle happens, some industries will report it under one category and some under another. Then the government organisations handling the statistics will combine the statistics for a number of industries into categories much broader than

In addition, some countries, including the UK, record incidents on the road in a different way to incidents involving the same vehicles but



www.osha.europa.eu



SAFETY PE DATA REQU	RFORMANCE JESTED	FTA
Off-road inc	ident numbers:	
Fatal	*RIDDOR	Lost time
On-road inc	cident numbers	
Fatal	Injury	Damage only



 $\rightarrow$  "The result is that there is no easy way of finding out how safe or unsafe logistics is, or of comparing your company's safety performance with an 'average' company, by looking at the Eurostat or individual country agencies' reports."

#### New benchmarking system

To overcome this problem, the Logistics Safety Working Group of the UK's Freight Transport Association (FTA) has set up a new benchmarking system.

The FTA is a membership organisation representing goods vehicles operators and freight-by-road consigners. Its Logistics Safety Working Group was set up in 2010 with the aim of reducing levels of work-related death, injury and ill-health in the logistics sector.

A wide range of knowledge and experience is contributed to the group by 36 member organisations, which represent not only the traditional third-party logistics companies but parcel, courier and express service providers and others from such sectors as retail, food and drink, utilities and waste. Importantly, it draws together transport specialists and safety specialists, whose combined input is vital if progress is to be made. In the long term, the group will identify the key issues and help to improve safety by determining, sharing and promoting good practice in the industry. Before it can do that effectively, however, it needs data, as FTA Director of Compliance Sally Thornley explains:

"Our first step has to be identifying and measuring problems. We can't hope to improve a situation until we understand it. Statistics on logistics safety performance are very difficult to extract from the RIDDOR\* figures. In fact, on-road incidents are not even included in those data sets. The only way forward is to gather our own data

"The group decided to focus on a small number of quantifiable key performance indicators. We needed to obtain information that FTA members would find useful, but without demanding too much of their time. We also recognised that companies' incident recording procedures and systems vary, so we stuck to measurements that could be easily compared.

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"What the contributors will get out of it is a 'mirror' of their own safety performance and a 'window' into how the industry as a whole is performing."

Initially, a small number of companies have completed the simple data request form that the FTA circulated at the beginning of 2013. Each company's figures are kept anonymously. As the data set increases, the group aims to have enough information to allow benchmarking of specific sectors within the logistics industry.

### **Key performance indicators**

The level of seriousness of an off-road incident is categorised differently to that of an on-road incident, at least in the UK. In all cases, fatalities 1. Data requested from participants in the FTA benchmarking study. 2. In the UK, fatalities and injuries are counted whether they are suffered by employees. visitors or members of the public.



www.fta.co.uk



and injuries are counted whether they are suffered by employees, visitors or members of the public.

For off-road incidents, the categories used in the benchmarking system will be: 1. Fatal

- 2. \*RIDDOR (serious enough to require reporting of an injury)
- 3. Lost time (no injury, but causing delay to the operation)

For on-road incidents the categories will be: 1. Fatal

- 2. Injury (non-fatal)
- 3. Damage only (no injury)

In the benchmarking comparisons, off-road incidents will be expressed per 1,000 employees.

For on-road incidents, the factor that multiplies risk is not the number of employees but either the distance travelled by vehicles or, if the distances involved are relatively small, the number of vehicles. The data will therefore be expressed in terms of incidents per million miles (1.6 million km) and per thousand vehicles.

### What now?

Sally Thornley of the FTA says: "On receiving graphs and tables showing their own KPI figures and those of the industry as a whole, participating companies will be able to map their own safety performance and benchmark themselves against others. They will be able to see where they are doing well and where they need to make improvements.

"For the FTA's Logistics Safety Working Group, the figures will be used to direct our activities, so our efforts are focused on the areas of greatest risk, and to identify good practices which have positively affected performance. They will also help to inform the continuing discussions between the Health and Safety Executive and our industry.

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"In an era of 'small government', this industry should be applauded for tackling its own issues and promoting good practice. An important step is to start measuring performance on an industrywide basis. As all good managers know, you cannot manage what you cannot measure." ■ Article feedback is welcome: editor@eurekapub.eu

\*In the UK, incidents need to be recorded under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR).

or from racking.

risk are.

They show that about two-thirds of fatal injuries to workers, across all industries, are caused by one of the following: a fall from height; being struck by a moving or falling object; being trapped in a collapsing structure; being struck by a vehicle. Of these, falling objects, vehicle strikes and falls would seem particularly relevant to logistics.

# **Health and safe**

### **Existing statistics**

A major problem with statistics and reports publicly available from the UK's Health and Safety Executive, or from any other country, is that the industry categories are very broad. In the statistics below, logistics is included within 'transport and storage'. This category covers such diverse activities as transporting passengers, handling cargo and operating warehouses. If it appears, for example, that falls from a height are common, we would like to know how many of those are falls from lorries and how many are from other vehicles



It is possible that many incidents in the freight-by-road logistics sector are reported under other industry categories. For example, if a construction worker is injured by a brick falling from a delivery

lorry on a building site, does that count as a construction incident or a logistics (or transport and storage) incident?

However, the latest statistics quoted on the HSE website do give us some interesting insights into how our industry compares with others and what the major sources of

Looking at causes of non-fatal injuries, the most common category of all is 'handling injuries'. Again this is something of particular concern in logistics.

The HSE's statistics show that workplace transport is involved in 26% of fatal iniuries to workers. This is another very broad category, as it includes forklift trucks, cars and other forms of transport as well as large goods vehicles.

In relation to this incident category, transport and storage is shown as the riskiest industry sector. The annual figures given, per 100,000 employees, are 2.3 fatalities, 40.3 major injuries and 139.9 injuries in total.

The water and waste industry is next in the risk table and these two industries have injury rates more than three times those of any other sector.

Comparing total numbers of injuries, annually, for each industry, we find that transport and storage has the highest for slips, trips and falls (486 per 100,000 employees), the second-highest for handling injuries (417 per 100,000) and the second-highest for vehicle-related injuries (46.3 per 100,000).

As a very rough indication of how injury rates vary between countries, the latest figures published by Eurostat show, for example, an annual figure of 0.59 fatalities per 100,000 workers in the UK (across all industries, not just logistics) and quite similar figures for The Netherlands and Germany. The corresponding rates for other countries include 1.73 for Italy, 2.04 for Spain and 2.07 for France.



View statistics by industry sector in the UK. www.hse.gov.uk.

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