

eureka

Issue 14

Autumn
2011

www.eurekapub.eu

THE MAGAZINE FOR THE MATERIALS HANDLING PROFESSIONAL

Fuel Duel

How to make the most of energy.



Cold Truth

*Cat® Lift Trucks sponsors
Antarctic exploration.*



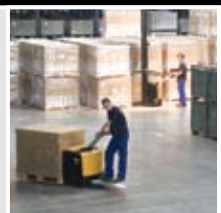
Recovery Path

Flexibility is key.



Safe and Sound

Workplace safety begins at the top.



eureka issue 14

The magazine for the materials handling professional

Welcome to the Autumn 2011 edition of **eureka!**

It seems that things are never straightforward. After a lot of optimism in 2010, the economic recovery seems to have stalled or, at least, weakened. There are some bright spots; manufacturing output has been up in much of Northern Europe, for example. And, of course, people still need food to eat and clothes to wear so the materials handling industry continues to be busy.

However, the way logistics and warehouse management operations are managing their affairs has to be flexible and able to adapt to changing demands.

This edition of the magazine reflects the need for adaptability in getting the most out of resources. Gay Sutton has been writing about materials handling, manufacturing and logistics for nearly 20 years. In one article, she looks at ways to get the most out of every Watt of energy. But effective warehouse management is also about a safe operating environment and she finds confirmation that it has to be driven from the top.

Cat® lift truck dealers are offering various flexible deals that are better suited to fluctuating demands and needs as customers gear up for recovery, Ruari McCallion reports.

Cat Lift Trucks is proud to be a sponsor of a project to take an electric vehicle across the Antarctic. Gian Schiava reports that the project has more than just academic value. It is a serious investigation into alternative power sources for the future.

I hope you enjoy this edition of **eureka**.

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



eureka's commissioning editor is Monica Escutia, a Bachelor of Communications – Journalism. She is a Spanish national and fluent also in Dutch, English and Italian. Having previously edited a variety of international media she has spent the last eight years in the materials handling industry – the first four as a parts sales representative for several European countries, before becoming the EAME Senior Marketing Communications Coordinator for Cat Lift Trucks, based in the Netherlands.

“It was Archimedes who observed that the power of levers could be used to move the entire world.” This publication is named after his famous exclamation of ‘**eureka!**’, literally, ‘I’ve found it.’



Monica Escutia
Commissioning Editor

Don't forget to visit the **eureka** website www.eurekapub.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.

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 The search for effective non-fossil energy sources reaches to the ends of the Earth. Cat Lift Trucks are sponsoring a solar vehicle that intends to cross Antarctica.

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 The path to economic recovery is uncertain and full of ups and downs. Cat dealers are helping customers with more flexible contracts.

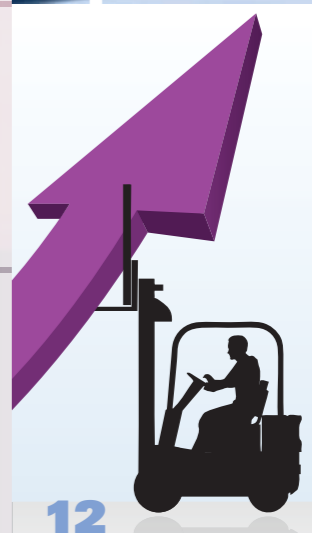
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In safe hands
 Safety management is not just about training. It has to be embedded into the company's ethos and clearly supported by top management.



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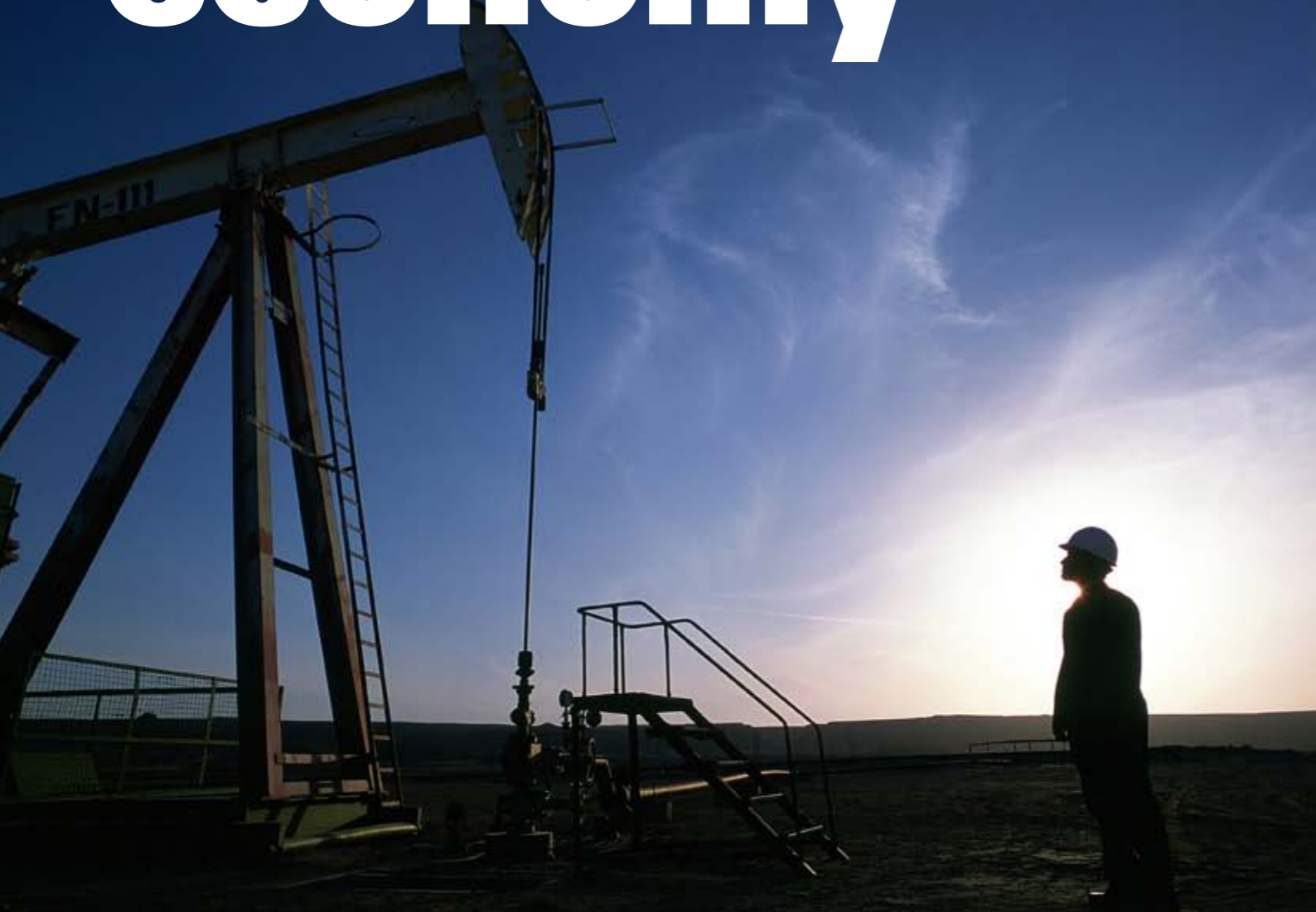


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Events Calendar

Date, Event, Location, Website	Overview
27-28 September 2011 - LOGISTICS LINK NORTH Doncaster, UK www.north.logisticslink.co.uk	Logistics Link North is back in Doncaster in a brand new warehouse venue, giving you an unmissable opportunity to test and compare some of the industry's most innovative products and services in a warehouse environment. The show is brimming with new ideas to help you cut costs and improve your operations and will give you the best opportunity to conduct an end-of-year efficiency audit for all your warehouse and logistics processes.
27-29 September 2011 - HOLLAND TRANSPORT & LOGISTICS SHOW Rotterdam, The Netherlands www.hollandtransport.com	Rotterdam is the obvious choice to host the Holland Transport & Logistic event, where shippers can see and experience the latest developments in logistics: logistic infrastructure, logistic real estate, logistic information technology and equipment. Also the event will update them with the developments, problems and solutions to improve the sustainability within the logistics chain.
11-14 October 2011 - PPI TRANSPORT SYMPOSIUM Amsterdam, Netherlands. www.risiinfo.com/events/transport_symposium	The Premier Event for the Global Forest Products Logistics Industry! PPI Transport Symposium is the longest running conference and exhibition dedicated to the global forest products logistics industry. Organized by RISI, in association with the International Forest Products Transport Association (IFPTA), the event focuses on the issues surrounding the worldwide transport, materials handling, and distribution of forest products.
29 November - 1 December 2011 - INTERMODAL EUROPE Hamburg Messe, Germany www.intermodal-events.com	Intermodal Europe is where the industry meets to do business. 2010 was the most successful in the show's history, attracting over 3,400 attendees, making it the largest dedicated Intermodal event in mainland Europe. Intermodal Europe 2011 is set to provide a truly unparalleled insight into the management and movement of shipping containers.

Fuelling oil economy



With oil prices likely to stay at over \$100 a barrel and climb in the future, ways of reducing fuel consumption of the lift truck fleet are at last coming under the microscope.

Gay Sutton reports on initiatives large and small that can have a cumulative impact on costs

Fuel costs



In April this year, the price of oil broke the \$100 a barrel barrier and hit the \$125.9 mark as unrest in Libya interrupted supply to Europe. Oil prices, like those of any other commodity, are largely dictated by the forces of supply and demand. Falling supply forced prices up. Meanwhile, when demand slumped dramatically during the global economic recession of 2008 to 2009, prices plummeted to a low of \$30 a barrel.

At the time of writing the price of Brent Crude, which is used to as a benchmark for two thirds of the world's oil prices, had fallen to \$106 a barrel in response to US and European economic concerns. Although it will always be susceptible to economic or political events, there is a more serious underlying trend that will ultimately dictate prices.

Projections from Macquarie Capital which are based on current data show that demand is relentlessly increasing and my well eclipse supply sometime in the next 5 to 10 years, inescapably forcing prices up further.

With these gloomy prospects for the future, it makes sense for companies to turn their attention to reducing the fuel consumption of their forklift operations, as part of a company-wide initiative to cut energy consumption.

"There is no single solution that will save litres of fuel," explained Remke Van Ommeren, product manager at Crepa, Cat® Lift Trucks dealer for the Netherlands. "However there are a number of things that can be done which in combination

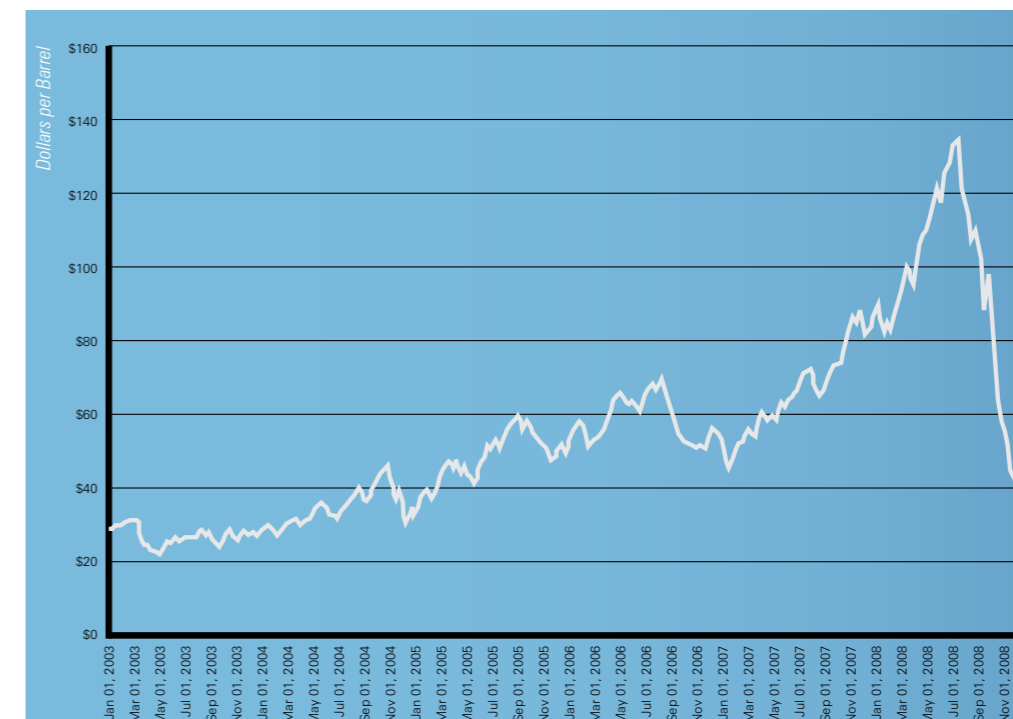
can reduce fuel consumption by a significant percentage." Many of these are inevitably a matter of common sense and operational discipline, such as using the right vehicle for the job.

"With these gloomy prospects for the future, it makes sense for companies to turn their attention to reducing the fuel consumption of their forklift operations, as part of a company-wide initiative to cut energy consumption."

Driver habits play a big role in fuel consumption. The way an operator may gun the engine to increase the power, for example, can be heavy on fuel. And the bigger the truck the more expensive that can be. Leaving the engine running is another. While loading and unloading goods, leaving the engine running is an essential part of forklift operational efficiency, but it makes no economic sense to do the same when the truck is not in use or while the driver is on a lunch break. Instilling the discipline of parking up and switching off a truck that's not in use requires a proactive workforce of drivers who not only understand what is required of them, but are also motivated to put the disciplines into action. And this requires informed and well managed supervision.

Meanwhile, many lift truck training providers now include elements of environmental best practice and fuel efficiency in their training →

Main image
Shell nodding donkey oil well,
Oman PDO. Courtesy of: Shell



1. Oil Price,
January 2003 - December 2008
Weekly United States Spot Price
Weighted by Import Volume
(Dollars per Barrel)



→ programme, so either look out for that option or incorporate it into your in-house training schedule.

The use of new technology can help reinforce good practices in the workplace. "Many modern trucks are equipped with motor management systems that automatically shut down the motor after it's been idle for a specified period of time," Van Ommeren said. "And similar technologies can certainly be retrofitted. The return on investment can be reached quite soon, depending on the number of hours the truck works per day."

"Meanwhile, many lift truck training providers now include elements of environmental best practice and fuel efficiency in their training programme..."

Such management systems can also report on other facets of truck's usage. By linking the operator identification code with the truck utilisation and fuel consumption, it's possible to compare driver performance, identify heavy fuel users and then it's up to management to correct behaviour, based on factual evidence. "You can identify operators who are, shall we say heavy booted," explained FLTA chief executive David Ellison. "Then you can either train them to be less so or get them employed elsewhere in the company."

According to Ommeren, a similar system is in operation across the Netherlands' Airports. Whenever a forklift truck, or any other airport vehicle for that matter, is refuelled, the refuelling

company not only issues a regular invoice for the fuel, but also issues a report detailing each truck number, its department code, how much fuel was required to fill the tank and when the refuelling took place. "Managers are finding this is a great management tool for checking fuel consumption and correcting driver behaviour," he said. "Good managers can even turn this into a competitive game to become more fuel efficient."

Another big factor governing fuel consumption is the layout of the site and the distances trucks travel on a daily basis – regardless of whether that's a warehouse, factory or construction site. And this applies just as much to electric forklifts as to internal combustion engines trucks outdoors.

"By linking the operator identification code with the truck utilisation and fuel consumption, it's possible to compare driver performance, identify heavy fuel users and then it's up to management to correct behaviour, based on factual evidence."

In a new facility the layout should already be optimised. But it is still worth regularly reviewing traffic routes and the relative position of storage areas, forklift parking areas, goods-in points and delivery points across the site, particularly if there are frequent new product introductions or new jobs etc.

Structural alterations to a site may not be cost effective or feasible, but simple changes to traffic

routes or lift truck parking areas, for example, that can result in a substantial journey shortening and fuel saving. And this can be even more productive in an older facility. "If you have an old warehouse, for example, your forklifts may be travelling around three sides of the warehouse delivering goods," Ellison said. "Changing the traffic circuit could shorten the route considerably, and reduce fuel consumption." He also suggested bringing in a fresh pair of eyes to take an unbiased look at the efficiency of the operation - someone from elsewhere in the company or even from outside, whose perceptions are not coloured by working all day on the job.

From the management perspective, there are a number of things that affect the efficiency of the forklift truck. Many people may be tempted to make savings by cutting back on maintenance, but it's a false economy. An engine that is maintained according to the manufacturer's maintenance manual, with daily operator checks as well as regular scheduled maintenance, tends to run more smoothly, will be much more fuel efficient and less likely to break down.

"Changing the traffic circuit could shorten the route considerably, and reduce fuel consumption."

"With good quality fuel," Van Ommeren said, "the engines remain very clean and run better. Therefore they consume less fuel." And interestingly, statistics show that bad quality or worn tyres can increase rolling resistance which

increases fuel consumption by 10% to 30%. On an electric truck, this effect can easily be monitored as the amperage increases with increasing resistance. With a diesel truck, the effect is not so easy to gauge. So purchasing good quality tyres that are appropriate for the environment, and changing them when worn can result in cost saving.

"Many people may be tempted to make savings by cutting back on maintenance, but it's a false economy."

Finally, lifting and tilting, side shifting, positioning and clamping manoeuvres all consume more fuel than driving. So it's worth ensuring that heavy loads can be stored as near as possible to the floor surface and that unnecessary lifting and side shifting manoeuvres, for example, should be avoided as much as possible.

There is currently a lot of research going on into changing and improving the current engine technologies, and into hybrid engines. But Ellison doesn't believe that any major change is imminent. "These technologies are still largely experimental," he said. "And at the end of the day, I believe it will be another five or 10 years before they come through in any sustainable way. So operators will continue to look at the costs of electric power versus LPG versus diesel over the next few years, and of course their final decisions will come down to operational requirements." ■

Article feedback is welcome: editor@eurekapub.eu



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- 2. Driver habits play a big role in fuel consumption. The way an operator may gun the engine to increase the power, for example, can be heavy on fuel.
- 3. It makes no economic sense to leave the engine running when the truck is not in use or while the driver is on a lunch break.
- 4. Reducing energy consumption requires a proactive workforce of drivers who understand what is required of them and who are motivated to put the disciplines into action. And this requires informed and well managed supervision.

Antarctic explorer

The quest for sustainable energy sources in materials handling.



Power sources for tomorrow's lift trucks are being developed in research departments today. eureka has examined the struggle between fossil energy and electricity (eureka 4 and 10) and hybrid developments may also make an impact in the coming decades. Over the long term, however, we need to look at other alternatives. Solar energy is among them and the extent of its potential is demonstrated by an unusual project that is being supported by Cat® Lift Trucks.

Gian Schiava investigates a solar-powered Antarctic expedition vehicle.

Dutchmen Wilco van Rooijen and Fokke van Velzen together devised and developed a project to build a sustainable, solar powered vehicle, which is intended to take them from Patriot Hills (a field camp on the Antarctic) to the South Pole and back. The 2300 km trip is intended to draw attention to the situation of the Antarctic, which is currently protected against drilling for oil by the Environmental Protocol under The Antarctic Treaty. However this protocol ends in 2048 – and the question being posed is: what happens next?

The adventurers intend to seek an answer through the expedition's second objective; to inspire young people to focus more on the subject of sustainability. As the decision makers of tomorrow, they will be crucial in creating a world that can survive with alternative energy sources.

The adventurers asked the University of Applied Sciences in Utrecht, the Netherlands, to design and build the car. The requirements for such a vehicle make up a long list and

are a challenge to any group of (upcoming) engineers. Within the timelines of the project there was one very crucial requirement: testing of the vehicle in an environment as close to the Antarctic climate as possible.

"The adventurers intend to seek an answer through the expedition's second objective; to inspire young people to focus more on the subject of sustainability. As the decision makers of tomorrow, they will be crucial in creating a world that can survive with alternative energy sources."

The project fits well within the goal of reducing fuel emissions and finding new power sources for the materials handling products of tomorrow and Cat Lift Trucks undertook sponsorship of the crucial test phase. A crew of seven people left for cold Finland in February 2011 to perform a severe test programme, which served as input for the development of the final vehicle. →

1. Cat Lift Trucks undertook sponsorship of the crucial vehicle test phase.



1

Vehicle details

- Solar powered
- Able to operate on the varied terrain of Antarctica
- Expedition distance: **2300 km**
- Max. speed: **20 km / h**
- Seats: **2 people**
- Baggage and supplies: **1 m³**
- Solar cells: **600 cells**
- Power: **5 kWh**
- Mass: **700 kg**



→ The car was tested on driveability, steering, speed, braking and other vital functions. The regenerative braking system, which should result in energy being recovered and returned to the batteries, was tested for functionality. Naturally, several types of surfaces were tried and tried again.

“A crew of seven people left for cold Finland in February 2011 to perform a severe test programme, which served as input for the development of the final vehicle.”



The outcomes of the test will be incorporated into the final vehicle. The team from the Utrecht University of Applied Sciences are handing the project over to a completely new team, who will undertake completion of the vehicle. In this phase, the university students will be supported by students of other schools, such as the ROC of Amsterdam, which will help to spread awareness of the project. The new team will develop a new electronic drive system, which will incorporate data that will help the driver to drive as efficiently as possible. Better tyres will also have to be found, as those on

the test had a tendency to dig themselves into the snow. In addition, the solar panels will have to be prepared and tested thoroughly. These and other engineering jobs will have to be completed before a final test can be made.

It is expected that the vehicle should be ready by January 2012. Wilco and Fokke will then undertake one more test and the vehicle will then be shipped to the Antarctic in Autumn 2012. The project's progress can be followed on www.teamantarctica.nl.

The back-up from Cat Lift Trucks

A project like this cannot happen without support from the private sector. Cat Lift Trucks is proud to help with this adventure, especially considering the aims of the overall project. Sustainability is not just a phrase in a mission statement. Caterpillar, the mother organization states clearly that it wants to empower change by leveraging technology and innovation to enable customers to use resources more efficiently.

Each division within the Caterpillar organization adheres to this in its own way. Cat Lift Trucks, a joint venture of Caterpillar,

developed a company wide approach to make their products and activities more environmentally friendly. Just a few examples from the factory in the Netherlands;

- Reduce overall waste and non-recyclable waste per produced truck (following ISO 14001)
- Reduce emissions within the production process itself, including less usage of paint and solvents
- Develop advanced Health & Safety programs
- Streamline transportation in order to reduce emissions
- Developing eco-settings on diesel lift trucks
- Ensure all products meet the most stringent regulations on emissions, such as Stage IIIA of EC exhaust emissions directive 97/68/EC
- Biodegradable hydraulic oil available as an option to help customers meet environmental targets
- Increase the number of recyclable components

But probably the best way to support these ambitious environmental goals is continuously looking at alternative energy sources for lift trucks and continually seek to reduce emissions to the minimum. By sponsoring projects like the Antarctic explorer vehicle, Cat Lift Trucks aims at increasing awareness for the environment among the upcoming generations. And who knows....our future lift trucks may be powered by a practically endless energy source: the Sun! ■

Article feedback is welcome: editor@eurekapub.eu

2, 3. During the Finland test, the car was assessed on driveability, steering, speed, braking and other vital functions.

4, 5. The car was tested on a variety of surfaces. In snow, the tyres had a tendency to dig in, revealing that an alternative tyre will need to be found.

6. The Finland test team.



Ready for recovery



Ruari McCallion

Markets seem to be recovering from the post-credit crunch downturn but reports are patchy. How should logistics and warehouse operators gear up without overcommitting to equipment and capacity?



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The downturn triggered by the credit crunch and banking collapse has been very persistent but there are now indications of recovery. However, the picture is very patchy across Europe. The northern states of the EU – Germany and The Netherlands in particular – are reporting growth in their economies although different sectors within countries report varied results. In the UK, 2011 GDP figures show the economy running pretty flat, which may be to be expected from the significant restructuring already in train. But there are spots of light, as well, with reports from manufacturers indicating growth faster than for the past 20 years. The Netherlands' overall improvement has been tugged along by Germany, whose level of exports surged ahead, rising by 18.5% in 2010. The Netherlands also exhibited patchiness, with investment in housing, commercial property and civil engineering works considerably lower but purchases of machinery and computers were significantly up. The very promising growth in manufacturing output during 2010, up by over 7% in each of Q2 and Q3 2010, has slowed to a more modest two per cent in Q1 2011.

"The market is definitely improving we are seeing a massive increase in enquiries and activity across all sectors of the industry," said Paul Fox, National Sales Manager of Impact Handling, Cat® Lift Trucks dealer in the UK. That is good to know but if one looks further south in Europe, the picture is not so rosy. Spain faces a massive employment problem and lack of market confidence, which has pushed its interest rates high. Italy has pockets of outstanding performance but, overall, it seems to be struggling to deal with its structural budget deficit and ongoing concerns about its finances in the broader investment community.

Known and unknown unknowns

Further afield, the US, China, India and Brazil all delivered strong growth figures. But unforeseen and completely unexpected events can interfere with commercial activity, across the world. Europe has faced two unusually severe winters in succession, which led to some slowdown in Q4 in some of the northern countries – but at least winter has a fairly predictable timescale and the affected countries are geared up to deal with it, although they can be temporarily overwhelmed. On the other hand, the consequences of the Sendai earthquake, the tsunami and subsequent crisis around Fukushima nuclear power plant seem to go on and on, with no end in sight (at the time of writing). All of which poses a puzzle for materials handling, logistics and warehousing businesses: is now the time to invest in increased capacity or should we all continue to keep our belts tightened and to hold our collective breaths? But if we do keep everything tight, will we miss out on upturns as and when they arrive? And is the increased activity deep-rooted and sustainable in the longer term?

"...unforeseen and completely unexpected events can interfere with commercial activity, across the world."

The dilemma materials handling professionals face is as straightforward as it is difficult to resolve. On the one hand, if there is insufficient capacity within the organisation then it will not be able to meet customers' needs for on-time in full delivery (OTIF). That will not just cost money it may result in failure to win new business and even, in the extreme, in loss of contracts. On the other hand, if the business invests in increased

capacity and the recovery is fitful, with periods of reduced activity, then businesses will be left with expensive buildings, plant and equipment that is lying idle or being underused.

The best of all possible worlds?

In an ideal world, operators could expand as necessary, for as long as needed and contract when appropriate. We do not live in an ideal world but Cat Lift Trucks dealers are trying to make the part of this world that it has some control over at least as flexible and adaptable as possible.

"As we appear to be seeing the shoots of recovery from the recession of the last couple of years, it is paramount that we stay in touch with our customers' constantly changing needs and that we tailor our contracts to suit," said Impact's Fox. In today's business environment, the very idea of a traditional, fixed, five-year contract would seem to be an endangered species. Outright purchase is also, increasingly, a minority choice. A survey by RedShift, reported in *eureka* in March 2010, found that outright purchase fell to below 40 per cent of all 'new vehicle' activity in the years 2007-2009. Contract rentals and leasing also declined, and to an even lower level: it represented just 31 per cent of the market in 2009. What has been growing, and at an explosive pace, is short-term rental. It rocketed from nowhere to seize 10 per cent of the market in just two years – and there are no indications that that trend has been reversed.

"In today's business environment, the very idea of a traditional, fixed, five-year contract would seem to be an endangered species. Outright purchase is also, increasingly, a minority choice."

The need for flexibility

"In today's market the customer base needs flexibility," said Fox. Rental used to be about short-term cover, usually for emergencies or for temporary replacement while trucks were being repaired. Short-term rental has evolved from expediency to an integral part of the dealer's offer. However, short-term rental is dependent on the availability of credit finance – a situation that had led to certain challenges in Italy, where credit that was possibly too loose led to a global (across all companies and suppliers) lift truck fleet that had become unbalanced. When the downturn hit, over 10,000 trucks were returned to suppliers, which hit those companies that had pushed the concept heavily being plunged into crisis. The supply and availability of trucks may now

be restricted by the new reality and more straitened circumstances.

Impact Handling finances its fleet from its own resources and is not, therefore, dependent on banks and credit houses, who may still be rebuilding their accounts – and, as a result, restricting funds for business development. Impact offers customers a package it calls 'Total Contract Flexibility'.

"We can say to our customers 'we will change your fleet to suit your requirements'," said Fox. If a customer finds that its needs have altered, change can be accommodated. "In essence, if a customer ordered, say, 10 reach trucks and 2 gas trucks on a 5 year contract but mid way through decided they needed eight gas trucks and two reach trucks, we would gladly accommodate their request." He sees the benefit as two-fold: that the customer has the correct equipment to fulfil their needs and Impact Handling retains its customer over the longer term. The company presents itself as an organisation that is providing solutions to customers' needs, rather than simply selling trucks.

"We can say to our customers 'we will change your fleet to suit your requirements.'" Paul Fox, Impact Handling

In order to find the right solutions, it is a good idea for materials handling professionals to be in close contact with their lift truck dealers. This is advantageous from two points of view. First, operators will be quickly made aware of developments in hardware – new products, offers that may be more flexible and more appropriate to their needs. Secondly, and most important, a close relationship generates trust, which evolves into a more partnership-oriented approach. Partners try to help each other and in 'interesting times, knowing where to find the right help, at the right time, is invaluable. ■


Article feedback is welcome: Ruari@eurekapub.eu

Service in uncertain times

Cat Lift Trucks dealers offer a variety of ways to help customers to cope with fluctuating demand.


 **UK:** Impact Handling's Total Contract Flexibility helps customers to adapt to changing circumstances. The makeup of a fleet on a 5-year contract can be flexed in its makeup and size.

 **Spain:** Bergé Manutención maintains a fleet of vehicles for shorter-term rental, available for seasonal, emergency and short-term cover.

 **Italy:** Compagnia Generale Macchine S.p.A (CGM) includes a flexibility clause in its contracts, covering 15-20 per cent of the fleet.



Netherlands, Belgium and Luxembourg: Crepa BV has a short-term rental fleet of around 900 units including electric pallet trucks, stackers, reach trucks, LPG, Diesel, three and four-wheel electric forklifts. A proportion of its fleet is available for immediate, short-term rental.

 **France:** some short-term emergency cover available.



1, 2. The consequences of natural disasters such as the Sendai earthquake, the tsunami and subsequent crisis around Fukushima nuclear power plant present problems that harm growth on an unpredictable timescale.

In safe hands

Good forklift training, well laid out operating environments and effective risk assessments are essential to safety, but if the right management culture is not in place all of that may be for nothing.

Gay Sutton looks at some of the pitfalls and finds out how to establish and manage a safe forklift operating environment

We've all seen workplaces where this happens. A steady reliable employee passes training with flying colours but quickly acquires bad habits when let loose in the workplace. Performance deteriorates and the results are felt through the business.

In the forklift operating environment this impact can unfortunately be quite literal, resulting in injury to personnel and visitors, damage to goods, racking and equipment - or worse. "Invariably these things happen at inconvenient times, in the middle of the Christmas rush or when you're at half staff during the summer holiday period. It's part of the rich tapestry of life," said David Ellison of the Forklift Truck Association. "To prevent this, it's important to have the right management systems and proper supervision in place. Otherwise there will undoubtedly be a costly accident."

"...A steady reliable employee passes training with flying colours but quickly acquires bad habits when let loose in the workplace. Performance deteriorates and the results are felt through the business."

So what constitutes a good safety management system, and where can we see it in action? According to chartered safety and health practitioner Michael Collier, who has worked extensively on such systems with DHL and TDG, as well as large retail chains Safeway, Morrisons and Argos, a well managed safety regime can only succeed if it's driven into the ethos of the company.

Supported and reinforced from the board level, it has a well oiled hierarchy of responsibility that includes a designated safety manager and

involves all levels of management. Ultimately, though, the supervisors are the eyes and ears on the shopfloor, and the primary responsibility for safe disciplines should lie squarely on their shoulders.

"...the supervisors are the eyes and ears on the shopfloor, and the primary responsibility for safe disciplines should lie squarely on their shoulders."

Supervisors therefore require a range of capabilities, the first of which is a thorough understanding of what constitutes safe and unsafe practices. "We put our first-line managers through an extensive health and safety training, and then follow that up with a version of the driver training we give our forklift operators. It teaches them exactly what to look for," Collier said. This knowledge will be ineffective, however, if disciplinary action has to be referred up the management chain. "Linked to well informed supervision has got to be empowerment," Ellison pointed out. "The supervisor needs to have the authority to deal with the individual - on the spot."

However, there has to be a good balance between carrot and stick. "Health and safety can't be done to people, there has to be worker engagement," insisted Roger Bibbings occupational safety adviser at RoSPA (Royal Society for the Prevention of Accidents). "And this very much depends on the softer skills: listening to people, motivating them, helping them make decisions and so on." Unfortunately these skills are very rarely taught at supervisor level.

All too often, supervisors are simply appointed

from the shop floor on a Friday afternoon, given a shirt and tie over the weekend and expected begin in their management role on Monday. "That's absolutely ridiculous," said Collier. "They have to be taught how to manage people effectively. I've spent a lot of time addressing this in the organisations where I've worked. We now make a significant investment in ongoing training for first-time managers."

Higher up the management chain, staff must buy-in to the principle that safety and professionalism rather than speed and risk will deliver the productivity the company requires. Setting the right KPIs (key performance indicators) can encourage this and remove many of contradictory pressures that are often exerted at different levels. A measure of speed, for example, encourages unsafe speed and corner cutting whereas a measure of cost savings through fewer accidents reinforces good practice and highlights achievement.

"Higher up the management chain, staff must buy-in to the principle that safety and professionalism rather than speed and risk will deliver the productivity the company requires."

Nothing ever remains the same in any working environment. People, work layouts, products and tasks all change. One of the most effective methods for maintaining safety in this changing environment is to analyse the cause of knocks and accidents and to remove the hazards. Regular inspection of racking and vehicles will certainly yield information about a strike. Technology solutions can also indicate when a truck has been involved in a knock or has been driven too fast. But, according to Bibbings this technology can only be effective if used proactively with the drivers rather than as a punishment tool for poor performance.

Some of the best companies have instigated highly effective schemes whereby the driver reports any accident or near miss, and then engages in the hazard elimination process. If drivers fear admitting an error they will do their best to cover it up, so significant encouragement and an element of reward make a big difference to the results. This is then balanced by a hard line approach if damage is hidden from the company.

"In one company," Collier explained, "we ran a scheme where the names of drivers reporting near miss accidents were put in a hat, and we ran a monthly draw, giving the winner an extra day's holiday. In another company we took a different approach. We encouraged everyone to be aware of the damage that was being done and to try to prevent it. Then we calculated the savings

that were generated, and split the savings 50-50 between the shopfloor team and the company. It was a win-win situation. They received a nice bonus at times such as Christmas, and it worked really well."

A hierarchy of managers are usually involved in accident analysis, but the supervisors are again the best equipped to get to the bottom of an incident and identify its root cause. Steps can then be taken to make the environment or behaviour safer. In many cases the remedy need not be hugely expensive. Small measures targeted at a specific problem, such as mirrors enabling drivers to see around corners, can make a huge difference.

Each operating environment differs, of course, but in many cases it's possible to engineer the hazard out of the system and reduce the possibility of human error. "In all the operations where I've worked, we've restricted the speed of the vehicle so that it can't be driven too fast. We've also put restrictors on height so that trucks can't transverse, just lift after the load is approximately 1 foot off the ground," Collier said. "Meanwhile, safe loads are determined by computer, and we then work with suppliers to ensure the product arrives wrapped in the pre-determined standard of shrink-wrap film, on the right pallets and conforming to the size and weight we specify. With this consistent supply approach, our truck drivers can safely put the product away immediately in the right location first time."

"...in many cases it's possible to engineer the hazard out of the system and reduce the possibility of human error."

In most operational environments safety is a matter of continuous improvement. But occasionally, management processes require a more widespread reengineering. Then, the real strategic leadership for change has to come from the very top. "It's hard work if you're in an operation that hasn't previously been managed very well. You need to go through the change management process," said Collier. "You've sometimes got to be Mr Nice, sometime you've got to be Mr Nasty and sometimes you've got to go back time and time again until you get the right message across and it's finally understood. But you win at the other end, and if you're strong enough to do that, your managers will manage more effectively."

The result is well worth the effort. Increased safety undoubtedly delivers improved productivity and profitability and fewer hours of downtime, and that's a great by-product. ■

Article feedback is welcome: editor@eurekapub.eu



1. David Ellison, chief executive of the Fork Lift Truck Association.



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2. Michael Collier, Chartered Safety and Health Practitioner.

3. Roger Bibbings, occupational safety adviser at RoSPA.

4. Increased safety undoubtedly delivers improved productivity and profitability and fewer hours of downtime



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