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THE MAGAZINE FOR THE MATERIALS HANDLING PROFESSIONAL

Automating the warehouse

The proliferation of AGVs



Transport for life

Giving developing countries a hand



Tailoring your truck

What can forklift attachments do for you?



eureka issue 27

The magazine for the materials handling professional

Welcome to issue 27 of eureka, which brings you another useful, interesting and – we hope – inspiring mix of articles.

We lead with an update on the robotic world of automated guided vehicles (AGVs). **Ruari McCallion** discovers that the industrial sector's love affair with automation is now thriving in the warehouse too, and looks at the arguments in favour of investing in AGVs.

While many of us are tempted to complain about our economic situation, the international development organisation Transaid reminds us we are very lucky. **Mark Nicholson** takes a look at how Transaid and its supporters help the less fortunate in developing countries with transport, logistics and materials handling, and urges other eureka readers to lend a hand.

Back to the essentials of materials handling, one very practical way of making a lift truck more versatile and improving its performance in specialised tasks is to fit a forklift attachment. According to **Gian Schiava** there are a thousand ways of tailoring a forklift to its load, which he summarises with some examples and an account of the important considerations for buyers.

Finally, we return to our continuing drive to improve safety in materials handling. **Mark Nicholson** sets out the essential steps that all companies should take to protect their staff and their organisation.

We are always delighted to receive your feedback on eureka, and your ideas for future article topics, so please contact us by emailing comment@eurekapub.eu or messaging via our website www.eurekapub.eu.



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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 13 years in the materials handling industry – the first four as a parts sales representative for several European countries, before becoming the EAME Manager Marketing Communications for Cat Lift Trucks, based in the Netherlands.

Don't forget to visit the [eureka website www.eurekapub.eu](http://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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AGVs
Automating the warehouse

The manufacturing and processing sectors' love for automation is rapidly spreading into warehouse operations – and going way beyond conveyor systems. Exploring the current and potential contribution of automated guided vehicles to materials handling, **Ruari McCallion** discovers why – and in what circumstances – AGVs are a good investment.



8-10

International aid
Transport for life

Materials handling and logistics companies are working together to bring improved transport systems, vehicle maintenance, operator training and safety standards to the developing world. **Mark Nicholson** looks at the role of Transaid and its supporters in creating greater equality and finds there is plenty of scope for others to help.



11-13

Forklift attachments
Tailoring your truck

With the addition of a forklift attachment, a lift truck not only gains the versatility to fulfil an additional role but becomes equipped to carry out a specialised task more productively. **Gian Schiava** makes sense of the huge choice of attachments available and sets out some key considerations for buyers.



14-15

Safety advice
Is your organisation safe?

What fundamental actions should you take to protect your business and your workforce? With advice from a health and safety professional, **Mark Nicholson** takes us on a step-by-step journey through the processes necessary to understand and control risk, avoid the expense and tragedy of accidents, and develop a positive, caring culture.

"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.'



Events Calendar

Date, Event, Location, Website	Overview
13 - 16 September 2016 IMHX 2016 NEC, Birmingham, UK www.imhx.net	IMHX is the largest meeting place for the UK's logistics industry. This September over 20,000 supply chain professionals will gather to evaluate cutting edge technologies, explore the latest industry solutions and discuss how to increase efficiencies within supply chain operations. It is also an opportunity to network with industry colleagues and debate the industry's hottest topics.
14 - 16 March 2017 LOGIMAT 2017 New Stuttgart Trade Fair Centre, Germany www.logimat-messe.de/en	LogiMAT, the International Trade Fair for Distribution, Materials Handling and Information Flow, sets new standards as the biggest annual intralogistics exhibition in Europe. The focus will be on innovative products, solutions and systems for procurement, warehouse, production and distribution logistics.
14 - 16 March 2017 INTRALOGISTICS Paris Porte de Versailles, France www.intralogistics-europe.com/en	Every year, Intralogistics updates its offering of products and services for manufacturers, retailers and logistics service providers by focusing on innovations that become standards. More and more visitors attend since they know that everything they need can be found under one roof.

AUTOMATING THE WAREHOUSE

Warehouses see automated guided vehicle (AGV) population explosion

Automation is becoming as familiar in the warehouse as it already is in manufacturing and processing. A growing part of materials handling is going beyond conveyor systems into the territory of automated vehicles. **Ruari McCallion** looks at developments and speaks to Petri Petäys of Rocla Oy.

As the march of automation continues, it is to be expected that solutions will extend beyond the static, programmed and repetitive robot applications that have become familiar. While conveyor systems have become very sophisticated (just look at airport baggage handling), warehouse management requires automation solutions that are mobile and can be reprogrammed 'on the fly', as it were; they should be able to undertake a range of tasks at different times without having to stop and pick up new data. Ideally, they should be able to change while on the move. The emergence of unmanned aerial vehicles (UAVs) and driverless cars shows what is possible.

All of this is pretty commonplace for Rocla Oy, whose machinery and equipment undertakes a range of materials handling tasks and has been doing so for a number of years. The Finnish company got into warehouse automation in the 1980s and has been offering AGVs since 1983.



2



Visit: [Rocla](#)

"We talk about 'automated guided vehicles,'" says Petri Petäys, Sales Director, Rocla Oy, but he stresses that the vehicles are not autonomous – they do not make decisions for themselves. "Most of the AGVs can be guided by laser, wire or measurement of their environment." Vehicles' tracks contain certain virtual points along the route, which are comparable to milestones or road signs. When the vehicle arrives at any particular point it asks permission from the supervising system to continue: straight on, turn left, turn right, stop, rotate, and so on. The time may come when warehouse machinery will be able to operate without embedded waypoints, as so-called 'free AGVs', but reliable, industrial-scale solutions have yet to be demonstrated. The roles of AGVs today are pretty clear: they carry out tasks that are repetitive, perhaps dangerous, and/or awkward – operating in very narrow aisles and in restricted spaces, for example.

The roles of AGVs today are pretty clear: they carry out tasks that are repetitive, perhaps dangerous, and/or awkward – operating in very narrow aisles and in restricted spaces.

"AGVs are involved in WIP (work in process), in transporting items between manufacturing points; in traditional A to B transport; or in warehouses with various racking systems," Petäys explains. He is careful to emphasise that AGV systems are typically not 'standalone' solutions.

"They are aligned to, and may be fully integrated into, the warehouse management and into the company's ERP or MRP systems," he says. It isn't just about transporting goods: it is about goods and the information related to them. But integration is not all or nothing: a WIP transport system may not require full-scale integration; racking could operate →



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1. Straddle AGV.
2. Conveyor pick-up and drop-off application in the food industry.
3. Straddle AGV.

with an intermediate solution and use automation to achieve higher density in the warehouse. So is it the case that the return on investment (ROI) into an AGV system is better with larger and more complex warehouses or logistics operations?

"Warehouses with 30,000 to 50,000 pallets can benefit from AGVs," Petäys replies. "The cost implications depend on the tasks to be automated, as well as scale. Two-shift operations will see full ROI in probably 18 to 24 months and three-shift facilities will get ROI in 12 to 18 months." The actual return in practice will depend heavily on the applications the system is being used for, but there is little doubt that AGVs start off with an advantage.

"The peak capacity of a forklift truck driven by an operator is probably higher but the driver works only six-and-a-half hours out of eight; an AGV will be working eight hours per shift," he explains. And, like other machines, AGVs do not go on holiday or need time off sick. Also, like other machines, preparation is essential.

"Our main task is to understand customers' processes," he continues. "Customers sometimes feel that they are buying a product but they must focus on process." Rocla Oy starts by looking at the number of transports per hour, the shipping requirements and the working day – 18 hours a day, five days a week, 24/7 or whatever it may be. There will definitely be an interest in the savings that are available, how they will be achieved and the broader human impact.

"There will be savings in labour costs and it is as well to highlight it. And there is the question of safety: AGV equipment is much safer and it is OK to operate it in the same areas as people," Petäys asserts. "As the equipment and system is integrated into the business' ERP/MRP solution, traceability of movement of goods is of a very high standard." AGV equipment is equipped with laser or similar proximity sensors and the machines emit alarms or stop completely, if necessary, which makes them safer in the company of human beings, with their sometimes unpredictable movements and actions, as well as in static landscapes. There are also overload sensors, which cannot be overridden; the machine simply won't move if it is overloaded.

An AGV will be working eight hours per shift, and like other machines, AGVs do not go on holiday or need time off sick.

"What we often do with a new site is to start with a one-vehicle pilot in a small to medium set of operations," Petäys says. As each unit is individual, scalability is clearly very flexible; operators can go up singly or by fleets at



4. 'Fork over lift' AGV for standard pallet handling and transfer operations



5. AGVs are ideal for narrow aisle work – operating in awkward and restricted spaces without risk of accident



6. AGV adapted for reel handling in the paper industry



7. Low-lift AGV

Automated guided vehicles (AGVs) – what is available?

Low-lift floor-to-floor AGV for picking and transporting pallets over longer distances

Forklift AGV – automated trucks for standard pallet handling and transfer operations with a typical lifting height of 1,700 mm

Straddle AGV – suitable for handling pallets and customer-specific loads in the distribution and manufacturing sector, and in all industries that handle pallets and have related transportation needs

Counterbalance AGV – for push-back and drive-in racks in pallet transportation and warehousing applications.

Beyond materials handling...

Assembly AGV bay – in use in the auto industry, where vehicles are assembled in an AGV that makes its way through the manufacturing process

Driverless vehicles – already under test for use in restricted areas and ultimately, on public highways

a time. As has been pointed out, integrating AGVs with the management system is the way to get the best from them so, long-term, freestanding individual units will not deliver the best return.

"At the upper end, AGV systems with several hundred machines can be found in the auto industry, and industries with high-value goods, such as pharma, are investing heavily as well," he says. "In the end, there is no real upper limit." As emerging markets – and China especially – are taking an increasing interest, it seems that the reliance on low wages is declining. This is good news for the more expensive labour markets of the West – but also indicates that businesses in advanced economies should be paying attention as well.

Petäys concludes: "It isn't just about labour costs, however. You can control WIP very tightly, get better feedback and achieve a more effective use of the whole plant with AGVs. The key is to have goods ready, when they are needed and where they are required, and the AGV will deliver in precise accordance with the order." ■

Article feedback is welcome: editor@eurekapub.eu



Transport for life

Materials handling and logistics companies support progress in the developing world

Materials handling, logistics and transport have the power to make life better, but not all areas of the world benefit equally. **Mark Nicholson** finds out how Transaid is working to close the gap – and what eureka readers can do to help.

1. Mark Prickett from Impact (3rd from left) pictured with Zambian students and the new forklift donated by Cat® Lift Trucks.

Without forklift trucks, imagine how much longer it would take for goods to reach us, how much more it would cost to move them and how much harder that work would be. And consider how different things would be without lorries, buses and cars.

In relatively wealthy countries we take it for granted that high-quality, well-maintained vehicles and forklift trucks will always be there, along with the necessary skills and training to operate and maintain them safely.

Transaid, an international development organisation, gives our industry the opportunity to contribute to improving people's lives in the developing world by making transport more available and affordable. As well as setting up or upgrading local transport systems it offers heavy goods vehicle, passenger carrying vehicle and forklift truck operator training, and promotes safety.

Transaid, an international development organisation, gives our industry the opportunity to contribute to improving people's lives in the developing world by making transport more available and affordable.

1

A positive Impact

A good example of what can be achieved through Transaid has been set by Impact, the Cat® lift truck distributor for UK and Ireland. Earlier this year, Impact's National Training Manager Mark Prickett spent a week at the Industrial Training Centre in Zambia. There he taught a group of engineers – including managers and teachers – how to check and maintain a forklift truck.

The students gained practical experience on a new DP30N diesel counterbalance forklift truck donated by Cat® Lift Trucks. Specified with additional protection to cope with a dusty environment, the truck is there to fulfil a vital role in training teachers and students on maintenance and efficient, safe operation of forklift equipment.

Industrial Training Centre (ITC), Zambia

"As one of the first training institutions in Zambia to provide forklift training, we have seen remarkable growth in demand for our course," ITC's Executive Director Levy Kamanga reports. "This has succeeded only through the support of Transaid and its co-operating partners."

He adds, "In addition to the Cat forklift truck, Impact also provided training from Mark Prickett, one of their national trainers, on maintaining the truck. This training was greatly appreciated and the skills shared with our staff will ensure that the forklift will allow us to train significant numbers of operators over the coming years."

An eye-opening experience

When Impact's Mark Prickett was asked if he would like to work in Zambia for a week, he had to think for a while – especially as he knew so little about the location. Being keen to help people, particularly in the area of safety, he decided to go. His experience has been a real eye-opener.

"The poverty out there is a nightmare," he says. "We are so lucky in comparison. It's not unusual for someone to have to walk four or five miles for a little food. In the rainy season, the torrential downpours cause many fatalities on the roads – often because of vehicle defects like worn tyres and windscreen wipers."

He adds, "Getting aid to communities in that situation is so important but it isn't easy. Above all, what these countries desperately need is funds – and donations to Transaid really do have a great effect."

Global teamwork

Cat Lift Trucks called on support from Mantrac, a member of its global network of official dealers, to make sure the vital forklift truck reached its destination safely and on time. Along with logistics and materials handling expertise, this Pan-African Cat lift truck dealer provided local knowledge and experience in dealing with the challenge of working across borders. Making use of its network of depots, Mantrac received the forklift at its branch in Tanzania and then shipped it directly to Zambia.

2. Mark Prickett shared his knowledge through a mix of classroom-based and practical training.

3. Levy Kamanga, ITC Executive Director



Continuing support

Impact has been a Corporate Member of Transaid since January 2015, and in addition to giving financial support it has put considerable effort into raising interest in the charity amongst its staff, customers and suppliers.

Angela Deklerk, Impact's Business Development Manager Marketing, says:

"We let everyone know what we are doing with Transaid, and why it's important, and we give them the chance to help, to donate or to suggest fundraising ideas if they wish. Some of the companies we work with, like Mentor Training, are already involved with Transaid and it would be great if we could encourage others to join."

One of Impact's planned activities for the next year is to support Regional Sales Manager Colin Ingram in Transaid's 450 km Cycle South Africa challenge in March 2017, through which the company aims to raise £3,000 (€3,600). Others include a Transaid display on Impact's stand at IMHX 2016, and donating Cat workwear as competition prizes.

"We also intend to send Mark or another colleague to help in Africa again," says Angela, "and we're currently discussing this with Transaid's team to make sure we know what is most needed and where." →

3

A personal appeal

SHD Logistics Editor Peter MacLeod – a Transaid Ambassador and a participant in Cycle Tanzania 2015 – urges other companies to get involved. “Transaid is always looking to attract Corporate Members like Impact, the UK Cat lift truck distributor – an active supporter which works closely with the charity to assist in its projects.”

He continues, “I have made a personal pledge to support the charity in its fundraising and awareness-raising initiatives. So, as well as aligning with the charity professionally – choosing Transaid as our charity partner at the SHD Logistics Awards and IMHX 2016 – I will also give up my time to support Transaid at other events.”

“I would encourage anyone with a professional interest in logistics and transport to sign up for one of Transaid’s challenges. Not only does it give you a big goal to aim at, but it also bonds you closely to your fellow participants.”

What can you do to help?

“We’re actively looking to encourage more businesses to join as Corporate Members – companies that would like to support our mission and vision on a long-term basis, financially, professionally and through employee involvement,” says Aggie Krasnolucka-Hickman, Transaid’s Head of Marketing and Communications. “We already have a number of companies from the eureka readership but we would love to become a Corporate Member of Transaid from any country.”

Benefits of becoming a Corporate Member of Transaid include: a chance to share your employees’ skills and your



company’s best practice internationally, and to get involved in staff engagement initiatives in the UK; demonstration and fulfilment of your corporate social responsibility aims; and a unique opportunity to meet the charity’s patron, HRH The Princess Royal, during Transaid’s events.

“We are always happy to welcome new corporate supporters and work together to build the engagement plan,” Aggie adds. “We can give your staff a presentation on our work and support you in organising internal fundraising and profile-raising events. Everyone can help Transaid in some way.” ■

To find out more, visit www.transaid.org

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“Getting aid to communities in that situation is so important but it isn’t easy. Above all, what these countries desperately need is funds – and donations to Transaid really do have a great effect.”

4. SHD Logistics Editor and Transaid Ambassador Peter MacLeod

5. SHD’s Peter MacLeod urges support for fundraising events like the Cycle Tanzania 2015 challenge.



Visit: transaid.org

1,000 WAYS OF TAILORING YOUR FORKLIFT TO THE LOAD



Lift truck attachments increase materials handling versatility and performance

A forklift truck is basically a transportation device with a mast and forks at the front and a counterweight at the back. Lift truck manufacturers offer an ample choice of options, but the handling device essentially stays the same. **Gian Schiava** explores the variety of forklift attachments that may be added for more specific needs.

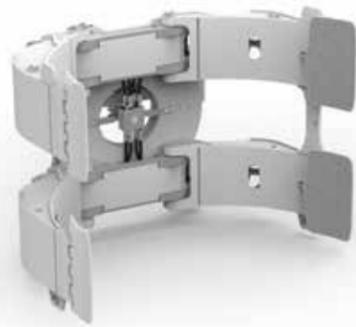
A forklift attachment can be fitted on a new machine or as a retrofit to suit a new materials handling need. Let’s try to give a definition: a device, other than conventional forks or load backrest extensions, which is mounted permanently or removably on the mast of the lift truck to help handle a load.

We can deduce two things from this. Firstly, an attachment may be removable, so it can be taken off at any time. In practice this means you can increase the versatility of your forklift truck as it can be equipped to perform different handling tasks. Secondly, besides versatility you will add productivity. As your forklift will be better able to handle a specific load, you can bet that the job will be done quicker.

From this starting point, other advantages emerge like enhanced safety or decreased damage costs. Obviously handling a load well means less risk of damage to the load.

If the advantages of fitting an attachment seem overwhelming, then so too are the choices available. There are literally hundreds of different configurations and designs on the market. We will examine just a few. →

Kilombero River



1

The popular choices

Without doubt, the sideshift is one of the most common attachments used today. In fact, many forklift manufacturers offer it as standard. A sideshift allows you to shift the forks from left to right (or the other way). It allows you to pick up the load quicker, as perfect alignment of the truck is no longer necessary. This one certainly falls within the category of increased productivity.

As your forklift will be better able to handle a specific load, you can bet that the job will be done quicker.

Sideshifts come in hook-on and integrated versions. The first is removable, offering flexibility, but the integrated one reduces the capacity loss which you normally get when an attachment is added. More about that later.

A similar advantage is delivered by the fork positioner or fork spreader. This enables the driver to hydraulically increase or reduce the gap between the forks. It enhances speed, like the sideshift, but has the added benefit of being able to adapt to picking up different-sized pallets and odd-sized objects. Of course, with a sideshift the forks can always be moved manually, but it takes the driver time to get in and out of the lift truck.



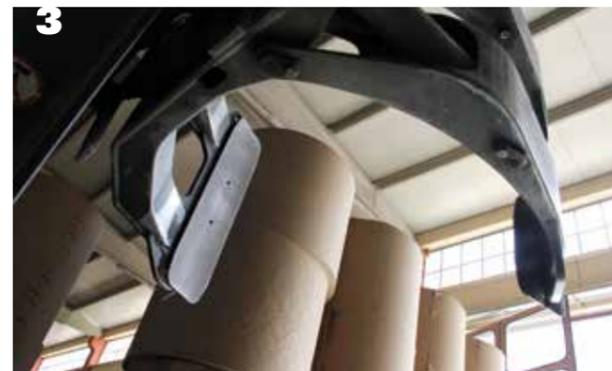
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Special needs require special handling

The many other options are mostly about gripping containers, rolls, bags and other types of loads that need to be transported safely in the warehouse. Here are some examples.

Paper roll clamps

These devices handle different-sized paper rolls for industries such as printing, paper manufacturing and other paper-related products. Importantly, they can be fitted with automatic pressure controls to avoid damaging the paper roll. There are various types of gripping pads depending on the type of paper being handled.



3

Pushers or push/pull devices

These are used for loads that are placed on slip sheets instead of wooden or synthetic pallets. The advantage obviously comes from cost savings relating to use of inexpensive slip sheets. In short, there are decreased maintenance costs, while less storage area is needed and stock damage due to old pallets is avoided. Slip sheets are often used with bags (e.g. cement, seed or grain), packaged foods, dairy products, fruit and corrugated boxes.

Clamps and rotators

To handle larger or square-shaped objects, forklift trucks can be fitted with a clamp or a rotator. These types of attachment can be seen in industries like bricks and blocks, beverages, paper, fabrics, appliances and other electronics. They can also be used to handle fragile goods.

Multi-pallet handlers

When large numbers of similar palletised goods need to be handled or shipped, you can opt for this device. Good examples can be found in bottling, brewing and soft or canned drink industries.

The above are just a few examples. The full list of available attachments is much longer and there is almost no load for which somebody has not designed a dedicated attachment. Attachments can be acquired from original equipment manufacturers (OEMs), from specialist OEM players and also from producers who choose to serve a small niche in the market with highly specialised or made-to-order equipment.



4

Attaching is not the same as adding

Enriching your forklift with a special attachment does have consequences. Possibly the biggest one is that the centre of gravity will be affected in a negative way, resulting in a reduced load capacity. It could also have some impact on stability, as you are putting extra weight on the front of the forklift.

In practice this means you could end up needing a lift truck with a higher load capacity than you would need without the attachment. A stronger truck often means a heavier counterweight as well, thus eliminating the risk from the (slightly) reduced stability.

Many suppliers offer rate calculation graphs and formulas so you can figure out what the impact of an attachment would be to your truck. However, it makes more sense to discuss your needs in detail with the forklift truck supplier, in order to determine the right configuration.

Using attachments also means forklift truck drivers need additional training to become competent in fitting, operating and removing the devices.

In the case of an electric forklift we see an additional concern, as heavy use of an attachment may shorten the battery's lifetime considerably and will therefore influence battery choice. Even the hydraulic system may need adjustment, as the battery, hydraulic pressure, tube sizes and attachment capacity all need to be carefully aligned. Professional materials handling equipment dealers work closely with battery suppliers on this issue, to ensure productivity and also to minimise energy costs.

Finally, bear in mind that using attachments also means forklift truck drivers need additional training to become competent in fitting, operating and removing the devices.

Multi-tasking

Forklift attachments transform your forklift truck into a multi-skilled machine and, if properly selected, enhance warehouse operations. The productivity gains should outweigh the additional costs of investment, maintenance and truck adjustment, provided all the possibilities are carefully considered. ■

Article feedback is welcome: editor@eurekapub.eu



5



6

- 1. Paper roll clamps come with different types of padding, depending on the load.
- 2. Fork positioners allow operators to move forks quickly and easily. Forks are fitted in the white holders on the carriage.
- 3. Many paper roll clamps have automatic pressure controls to avoid damage.
- 4. Typical application for a multi-pallet handler.
- 5. Multiple pallet handler for picking up two pallets at the same time.
- 6. Clamp for square-sized loads.

Is your organisation safe?



For the best advice on materials handling safety, ask a professional



Are you putting your employees and your business in danger without even knowing it? To help in understanding the key processes a company should go through to make itself resilient and protect its staff, **Mark Nicholson** talks to an international health, safety and environmental risk analyst.

Gordon Fuller of RCES (Risk Control and Environmental Services) is an experienced consultant who has advised on workplaces across the world. Although industrial sites vary enormously, the fundamental health and safety principles apply to all. Gordon would like the materials handling professionals reading eureka to consider this question: is your organisation safe?

"Being safe is not just about protecting your workforce. It's about protecting your business. How much is lack of safety already costing you? Even with small accidents, the cost of things like loss of productivity, damage repair, sickness leave and tarnished reputation soon mounts up. And what about a major accident? Do you think it could never happen to you?"

A phrase he often hears is 'we've never had a serious accident', implying that no further safety actions are needed. He sees this as the wrong attitude.

"Do you know what your level of risk is? Have you measured and assessed it? You may just have been lucky until now. There is risk in every situation but the important thing is to understand and control it."

When a company comes to Gordon for professional advice, his step-by-step plan to improve safety typically covers the following.

1. Company culture assessment

"I look for background on the company and its activities, and ask some searching questions to reveal its culture and its attitude to safety. I want to know how willing it is to be helped, and why it has waited until now to seek improvement. It's useful to know, for example, if it's to satisfy a large customer which is insisting on better health and safety performance."

Gordon recommends that the first meeting should be attended by the company's managing director, as effective implementation of any strategy requires interest and pressure from the top. He checks on what safety provision already exists, such as a health and safety policy, risk assessments and a training programme, and gives some initial free advice.

2. Workplace inspection, report and action plan

An inspection highlights problems and issues, which are then addressed in a report presenting solutions, an action plan, timescales and costs. If the recommendations are agreed, Gordon likes the company to appoint someone to be his contact and to carry the work on after he has gone. Ideally this should be the safety manager, if the company is large enough to have one.

3. Health and safety policy

Rather than writing it himself, Gordon prefers to help the business create its own policy. "The company will understand the policy better, and feel ownership of it, if it has been put together internally. I can make that easy by giving relevant advice, documentation and a simple structure."

The employee preparing the policy should be a designated 'Competent Person', as required by legislation. That designation can be achieved through mentoring or formal training, both of which Gordon can provide.

4. Risk assessments

In a risk assessment, hazards shown up by the workplace inspection are measured and actions needed to reduce or avoid them are determined. Again Gordon likes to teach the company's staff to do this themselves.

"It's a process in which the manager and consultant can involve the workforce, and this helps to build a safety culture. While some people see health and safety as a nuisance, I find workers are usually very happy to see a safety consultant on the premises. It shows them that the company cares."

Gordon notes that specialist areas of risk assessment include fire, COSHH (Control of Substances Hazardous to Health), workers' state of health, vibration, noise, manual handling and hundreds more.

"It's important to be aware of all of these, and of their interactions. For example, a fire risk assessment may identify blockage of exits by materials handling equipment as a problem, and assessments of forklift truck drivers' health condition may identify poor sight, hearing or general fitness as issues."

5. Accident reporting system

"The more accidents your staff report, the better equipped you are to avoid future accidents," says Gordon. "You should also encourage workers to report 'near misses' and 'causes for concern', which will help you to prevent accidents in the first place."

He continues, "Make it easy and comfortable for people to come forward with information – and remove any 'blame culture'. Investigate each issue as carefully as its seriousness demands and, importantly, give your staff feedback on what you will do to reduce the risk. Then monitor the situation to see whether the changes you make are working."

6. Training programme

You should have a detailed training plan and record for every member of staff. As well as regular refresher training, Gordon stresses that further training should be given in response to changes such as new equipment or activities, promotion or long absence.

He adds, "Safety training is important at all levels. Board members and shop floor staff should be helped to appreciate the importance of safety practices, but the middle managers are the people who need most training. Their actions and decisions will have the greatest effect." ■

Article feedback is welcome: editor@eureka.pub.eu

Find yourself a consultant

This article gives a simple outline of the elements in a professionally developed strategy for safety improvement, but a consultant will tell you much more and guide you all the way. So how do you find the right consultant?

"Look for members of relevant professional bodies," Gordon Fuller advises. "Ask the body to verify membership and to show you the member's profile, confirming his or her skills and experience. Ask for references, as you would of any other contractor. A good consultant will be happy to be checked out."

Our interviewee

Gordon Fuller is a Fellow of the International Institute of Risk and Safety Management, a Fellow of the Royal Society for Protection of Health and, through the Institute of Occupational Safety and Health, a Chartered Safety Practitioner.

From his base in Cornwall, UK, he travels the world advising on workplace safety. The most extreme working environments he has visited include oilfields on the Iraqi border, where risk assessments cover threats like kidnapping and assassination as well as the more typical hazards.

As an example of the variety of his work, he once spent time in the African bush advising a wildlife photographer on how to minimise risk when tracking lions and other large animals.

For further information on what health and safety consultancy involves, visit www.rces-ltd.com

1. Gordon Fuller
2. Workers are happy to see a safety consultant on site as it shows that the company cares.
3. Training for managers is especially important.
4. The company should understand and feel ownership of its health and safety policy.



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John McKeever, Group Transport Manager at Brand Energy & Infrastructure Services UK, Ltd.

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