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Healthy Workplaces

Good Practices 2010:

Safe Maintenance



Good Practices 2010: Safe Maintenance

The new biennial European campaign, entitled 'a Healthy Workplace', was launched on 28 April 2010, the World Day for Safety and Health at Work. There is a different theme every two years. In 2010 and 2011, it is 'carrying out maintenance work safely', at the instigation of the European Agency for Safety and Health at Work. The aim is to mobilise employers, employees, professionals, occupational health and safety organisations, policy makers and other parties with an interest in safe maintenance. The highlights are the European weeks in October 2010 (25th to the 29th) and 2011, when activities will be organised throughout Europe.

About the agency

The task of the agency, in which government, employers and employees are represented, is to make workplaces in all of Europe safer, healthier, and more productive. The mission is carried out in each country by the so-called national Focal Points, with which the agency works together at building an up-to-date database of knowledge in the field of health and safety measures and policies. This is manifested in its most concrete form in Good Practices: methods for making workplaces safer and healthier that are applied in everyday practice and have a proven track record of effectiveness.

A useful way of improving health and safety at work is to collect these practices

and make them available to everyone. This is done in the Netherlands by the Netherlands Focal Point for Safety and Health at Work, in which MKB-Nederland (representing small and medium-sized businesses), CNV (the National Federation of Christian Trade Unions in the Netherlands), Vakcentrale MHP (trade union for middle and higher ranking personnel) and the Ministry of Social Affairs and Employment work together. The day-to-day activities are carried out by TNO Quality of Life.

Why a European campaign on safe maintenance?

Good maintenance is essential for managing the risks and dangers at the workplace. However, maintenance work itself involves risk. It is estimated that ten to fifteen per cent of fatal accidents in the workplace and fifteen to twenty per cent of all accidents are related to maintenance work activities. There are some sectors in which half of all accidents fall into that category. Compared with other employees, maintenance workers are exposed to chemical, physical, biological and psychosocial dangers far more frequently, which can have an acute or chronic effect on their health. The aim of the 2010-2011 European campaign is to strengthen the realisation that maintenance is an integral part of an effective culture of safe working. The agency is seeking to promote a structured approach to maintenance, so that

ultimately fewer people sustain injuries or harm to their health as a result of poor maintenance or lack of it, both now and in the future!

What is maintenance?

According to European standard EN 13306, maintenance concerns the 'combination of all technical, administrative, and managerial actions during the life cycle of an item, intended to retain it in, or restore it to, a state in which it can perform the required function'. Maintenance is therefore a generic term for a variety of tasks in a very wide range of industrial sectors and in every type of working environment.

There are two sorts of maintenance:

- preventive/proactive maintenance work: carried out in order to ensure that something keeps working;
- corrective/reactive maintenance work: repairing something in order to get it working again.

Good Practice Award 2010-2011

As in previous years, companies and organisations in the EU countries were invited to take part in the Good Practice Competition. The purpose of the awards is to reward organisations that have conceived innovative ways of making constant maintenance an integral part of their workplace management practices. The



DE JURY

l. to r.: Jacco Brouwer,
Hans van Selm, Sonja
Baljeu, Mario van Mierlo,
Johan Gort, Mirjam van
Engelen and Jos de Lange

Dutch awards were presented in 2010, and the European awards will be held in 2011.

For the first time, the awards will be given in two categories:

- companies or organisations with fewer than 100 employees or branches;
- companies or organisations with 100 or more employees.

The Good Practices in the Netherlands were assessed by an expert jury, consisting of chairman Mario van Mierlo (MKB-Nederland), Mirjam Engelen (Research voor Beleid), Jacco Brouwer (Ministry of Social Affairs and Employment), Sonja Baljeu (CNV), Hans van Selm (NVDO – Dutch association for effective maintenance), Johan Gort (TNO), and Jos de Lange (Netherlands Focal Point).

The jury concentrated specifically on a number of points: the Good Practice entries had to be recent, they had to lead to genuine and sustainable improvements to the work-related health and safety of employees, and they had to be applicable in other organisations. In addition, they had to be effective examples of collaboration with the employees and demonstrate their involvement.

A Dutch winner has been chosen in each category. These winners were announced during the 'Veilig onderhoud, het werk draait door' (safe maintenance, work goes on) event on 25 October 2010. They won 2,500 euros in prize money and were nominated for the European competition, for which every European member state has nominated two Good Practices. A number of European winners will be announced from these entries on 28 April 2011, during the European Good Practice Award event in Budapest (Hungary).

A selection of the entries – eight in total – has been included in this e-zine.

GET INSPIRED!

BAM Wegen launched a warning system for vehicles involved in maintenance work

Stopping on time

IT OCCASIONALLY HAPPENS THAT VEHICLES INVOLVED IN MOTORWAY RESURFACING WORK COLLIDE WITH GANTRIES OR VIADUCTS. A NEW DETECTION SYSTEM PREVENTS THIS.

During asphalt resurfacing work on motorways, temporary gantries bearing warning signs are placed so that motorists know that maintenance work is being carried out there. Unfortunately, though, it occasionally happens that one of the vehicles involved in the work collides with a gantry. If, for example, the raised loading section of a lorry being driven forward as part of the resurfacing operation is not lowered at the right time, it may hit the gantry, causing it to fall onto the motorway. As Kommer den Uil, the head of quality, working conditions and environment at BAM Wegen, recalls, 'One of our temporary gantries was knocked over in 2008, and landed on a car with a family inside. All four passengers had to be taken to hospital with serious injuries.'

Accidents of this kind are rare. 'It had not happened before.' Nevertheless, BAM Wegen decided that measures were needed. 'The first thing we did was to attach red and white warning planks with chains underneath the gantries, but when it was windy they started to swing about and that caused danger to other traffic.'

The use of special warning signals inside the lorry cabins was not considered a good idea, either. This involves a light flashing when the loading section is raised, so that the driver knows when to reduce his speed and lower the loading section. 'However, we have to deal

with different subcontractors, who use not only lorries, but also tractors and diggers.'

Horn

The solution came with the height detection system that BAM Wegen then went on to develop. The system consists of a camera on high posts, placed around sixty metres in front of the object – be it a gantry, a bridge arch or a viaduct. If a vehicle approaches that is too high, the information is passed by the camera to an installation located fifteen metres in front

of the object. This causes three orange lamps to flash, a warning light to come on, and a horn to sound. The initial results are good, says Den Uil. 'The drivers are able to stop in time in around 95 per cent of cases.'

The system was conceived, developed and tested in double quick time – just six weeks. Den Uil: 'A number of engineers from HOKA Verkeerstechniek were working on the A28 when they came up with this solution. Interest was shown by a wide range of peo-

ple: not just the employees on the projects, but also safety experts and management. As a result, we were able to put it into practice very rapidly.'

TIP

Do not be too easily satisfied. If we had not continued to think through the issue, we would never have devised such a good warning system!



I. to r.:

*Jan Hein Matze and Robbie van Santvoort
(both electrician trouble-shooting service)*

Why...

did your organisation enter the Good Practices competition?

As a company, it is always a good thing to share new developments with the outside world.

should your Good Practice win the competition?

This is a pragmatic solution to a longstanding problem that affects the whole of society. It makes roads safer - not just for road workers, but also road users.

is the European campaign a good initiative?

It certainly is – we at BAM are taking an active part in it. On 19 October 2010, we are organising an international safety day. In every country where we operate, we will be dedicating that day to safety.

Information

Mr. Kommer den Uil

Like to know more about BAM wegen?

[Click here](#)

Traffic Service Nederland introduced the M.A.R.S. II, a machine for safely closing road lanes

Carrying out road repair work safely

IN ORDER TO MAKE SURE THAT ROAD MAINTENANCE EMPLOYEES CAN WORK SAFELY, MOTORWAY LANES ARE CLOSED TO TRAFFIC. BUT THE PEOPLE WHO ACTUALLY CARRY OUT THE CLOSURES RUN A SIGNIFICANT RISK OF BEING HIT BY OTHER TRAFFIC. THE M.A.R.S. II PROVIDES THE SOLUTION.

It is possibly one of the most dangerous jobs in the Netherlands: carrying out maintenance work on motorways. A survey by the Labour Inspectorate in 2009 showed that at one site in three of where road maintenance work was being carried out, the workers were inadequately protected from the traffic. Even during the period of the survey itself – June to November 2009 – there were two fatal accidents.

For the people involved in closing the lanes, the risk is almost as great. 'I reckon there are around ten accidents a year,' says Nick Ooms, the Consulting and Engineering Manager and quality, health, safety and environmental management

representative, who is responsible for, among other things, safety and innovation at Traffic Service Nederland, who implement lane closures all over the country.

Four functions in one

A lane closure is normally carried out by employees in a vehicle with a collision absorber trailer behind them. Two road workers get out of the vehicle – the work is done at night – to lay rubber humps on the road surface (designed to alert motorists), and to detach the colli-

TIP

Do not allow yourself to be led by conservative thinking. If you want to discover something new that you are convinced will make things safer for your employees, you should go for it.

sion absorber trailer, which carries a large illuminated arrow indicating to the road users that they should change lanes. One of the employees, sitting at the side of the vehicle, then places the traffic cones by hand onto the road surface, the traffic rushing by all the while. In 2005, Traffic Service Nederland devised the M.A.R.S. I (Mobile Automatic Roadblock System), a

machine that was capable of automatically putting the rubber humps and two lane closure units (with arrows) in place. These units replaced the vehicle on which the direction arrow was mounted. Shortly afterwards, Traffic Service Nederland purchased an automatic cone-laying system in the United States. Ooms explains, 'We wanted to expand the concept into a system in which the cones could be laid automatically as well. If we could also include a collision absorber, we would have succeeded in having four functions in one device.'

Have courage

And that is exactly what happened. The M.A.R.S. II is fitted with an integrated collision absorber with an illuminated arrow, a device for laying the rubber humps, and for placing the cones on the road. Ooms says, 'The M.A.R.S. II makes the process

of closing lanes much safer, and the job can be done by one employee.' That latter factor made the introduction of the machine rather awkward. 'Many people assumed that it would lead to job cuts, but that was absolutely not our intention.' The M.A.R.S. II is now being used 'more or less problem-free' throughout the Netherlands.

The development of the machine shows that it pays to innovate. Traffic Service Nederland had the vehicle built by Nederlandse Machinefabriek Alkmaar, but paid for all the development costs - around 800,000 euros - itself. That takes courage, reckons Ooms. 'You could take the view that we had been working in the same way for twenty years, and usually everything was fine. But every fatal accident is one too many. We were not afraid to invest in something new, and the results are outstanding.'



l. to r.:

Mars II, Nick Ooms (Manager C&E) and Wiljo van den Berg (Machinist Mars II)

Why...

did your organisation enter the Good Practices competition?

To show that you can use innovative projects to work more safely.

should your Good Practice win the competition?

We have succeeded in developing something from all the ideas that came from within our organisation that enables us to work much more safely.

is the European campaign a good initiative?

The fact that attention is being focused on working safely is a good thing. Employees, and more especially employers, should concentrate on the dangers and where they are to be found. Having a week dedicated to the subject will be very helpful.

Information

Mr. Nick Ooms

Like to see how the M.A.R.S. works?

[Click here](#)

Twence Afval en energie B.V. developed safe scaffolding for use in boilers

Safety in the boiler

MAINTAINING AN EIGHTEEN-METRE HIGH INCINERATOR BOILER IS NO SINECURE. TWENCE INVESTED IN A NEW SCAFFOLDING CONSTRUCTION, WITH NOTABLE RESULTS.

We extract energy and raw materials from waste,' explains safety expert Mark Althof, describing the work carried out by Twence Afval en energie B.V. in Hengelo. 'The waste is separated, made suitable for recycling, composted, burnt or – if there is no alternative - dumped. We convert more than 95 per cent of the waste that comes to us into raw materials, building materials and energy.'

Once a year, each of Twence's four incinerator lines is taken out of service for major maintenance. This involves cleaning, inspecting and, where necessary, repairing the equipment. This is carried out by different contractors from inside and outside the Netherlands. Althof continues, 'That means there are more than two hundred extra employees on the premises.'

Reward

The company employs 210 people. With so many contractors in the picture, all speaking different languages, communication is a significant area of focus. 'Twence attaches much value to safety,' says Althof. For example, contractors and subcontractors are told before starting work what risks are associated with which tasks, and what measures they should take in order to minimise those risks as far as

possible, and therefore keep them at an acceptable level. Since 2007, only contractors who are SCC certified (Safety, Health and Environmental Checklist Contractors) have been used. In addition, Twence shows a safety film to everyone who is due to work on the company's premises, and employees must successfully complete a test. A health and safety plan is drawn up in conjunction with the contractors. 'They have to sign it, so they really do have to comply with plan.' In 2007, the company launched a safety-awareness project in order

to reward contractors. Every day, contractors were assessed on eight points, with the help of a checklist. They ranged from having the right work permit to neatness and tidiness on the work floor. A so-called safety barometer was used to show with which areas the contractor had complied during the inspection on that particular day. The scores were added up at the end of the test, and the company that had worked the safest was awarded a challenge cup. For the people who had actually carried out the work, there was a financial reward. It worked: the number of

accidents declined. 'We used to have two or three accidents during each maintenance shutdown, usually without employees having to take time off, though. In recent years, we have had shutdowns during which there has not been a single accident, or even near-accident.'

Putting on more weight

Investing time, energy and money into safety pays off – that is how Twence sees it. It was for that reason that it has invested heavily in a new

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I. to r.:

Mark Althof (Ing, HVK), Martin Damhuis (Teamleader Maintenance Stops), Huub Nijkamp (Manager Operations), leaning on special constructed saddles and lattice girders

Why...

did your organisation enter the Good Practices competition?

This construction means such a huge improvement to safety. If you fail to inform the outside world about it, you are committing a major disservice to other companies.

should your Good Practice win the competition?

Even though the costs associated with the scaffolding structure are high, every manufacturing company in the Netherlands, and even in Europe and beyond, would enhance their safety levels by purchasing it.

is the European campaign a good initiative?

It should always be your objective to improve. We therefore warmly welcome this European initiative.

Information

Mr. Mark Althof

Like to know more about Twence?

[Click here](#)

TIP

Safety should be an integral part of your thinking. People sometimes lose sight of that, however, which is why you have to keep encouraging safety awareness among your employees.

maintenance scaffolding structure for the incinerator boilers. Twence has a waste-energy plant with three incinerator lines, in which household and commercial waste is burnt. There is also a biomass electricity power station, with one incinerator line. One incinerator boiler is around 18 metres in height, with a surface area of about 32 square metres at the point where the new scaffolding structure is located. To maintain and clean the boilers, scaffolding that is almost as big, consisting of seven storeys, has to be placed inside the boilers. Previously, the scaffolding was erected from the incinerator grid, but the grid itself had to be cleaned and repaired as well. Althof explains, 'Work had to be carried out above and below the scaffolding, but that could not be done at the same time.' The upper part of the boiler was dealt with first, and then the scaffolding had to be reconfigured in order that work could be performed on the grid underneath. That was done by 'hanging' the scaffolding. However, that meant that any given storey of the scaffolding structure was incapable of bearing much weight: just 150 kilos per m² on one floor, or just 50 kilos per m² on three storeys. In practice, maintenance workers were in the habit of putting various items, such as tiles from the boiler wall and blasting grit, on several storeys at the same time, while other colleagues would be working with heavy machinery on other floors. This meant the

scaffolding was carrying too much weight, with the risk of collapse as the result. As Althof recalls, 'Just look at the serious accident at the Amer power plant in Geertruidenberg in September 2003, when five maintenance workers were killed.' To prevent any danger of collapse, every employee would have to be asked to remove any excess weight from the scaffolding, even if they were only part way through their work. With people of so many different nationalities, Twence considered it irresponsible to assume that they would actually comply. The management took the view that a technical solution was needed.

That being the case, a solution was developed. For the new construc-

tion, permanent openings have been made in the walls of the boiler, into which heavy pins are inserted during maintenance shutdowns. Special 'saddles' are then placed onto the pins, from which lattice girders are hung. These are connected to each other, thereby creating a basic platform. The seven-storey high scaffolding is then erected from the platform. It is a very practical solution. By attaching the scaffolding structure to the boiler walls, it is able to bear much more weight. Any three given floors can now support 300 kilos per m².

Good working relationship

True, the new scaffolding construction required a major investment, but it was certainly a worthwhile

one, the result being a structure that limits the danger of collapse to a minimum. Nor is that the only benefit. Less time is needed to erect the new construction than was the case for the old one. The scaffolding is made to measure, which makes edge boards unnecessary. That saves assembly costs, rent, and the amount of time taken. It does not have to be reconfigured, which also saves time. Moreover, the basic platform hangs above the incinerator grid, without touching it. This means that the maintenance employees can work on the walls of the boiler and on the grid underneath the scaffolding at the same time. 'That saves a huge amount of time and is much more efficient. There is no longer any need for employees to wait

around until their colleagues have finished their work, and that reduces irritation and stress.' Althof is proud – proud of the scaffolding and of all the people who ensured that the new structure is now a reality. 'There was an excellent working relationship between the scaffolding builders, the engineering consultancy and our project team. This meant that what was a very costly proposal for altering the scaffolding construction could be presented to the management team with solid support, conviction and enthusiasm.' In total, the amount spent ran to around 180,000 euros – no small sum. 'Under the motto 'we work safely, or we don't work at all', the management team decided to give the go-ahead.'

THE OPINION OF THE JURY

The jury considers this Good Practice to be especially notable because the solution deals with a major problem in the Netherlands, and indeed in other European countries – safe working at heights. Employees falling from heights is one of the most frequent causes of injury and absenteeism. If an accident occurs in such a situation, it is invariably very serious, and we have plenty of examples to remind us of that. The new scaffolding is a safe solution that tackles the problem at source, and can be successfully applied in other companies that use industrial incinerator boilers, both in and outside the Netherlands. The jury awards the Dutch prize, worth 2,500 euros, for this Good Practice, and has decided to nominate it as the Dutch entry for the European Good Practice Awards 2011.



At Nederlandse Aardolie Maatschappij (NAM B.V.), contractors and subcontractors have united in clusters

Focus on contractors

MUCH OF THE DANGEROUS MAINTENANCE WORK IN THE OIL AND GAS BUSINESS IS OUTSOURCED. IN ORDER TO PREVENT RISKS, NAM BV CONTRACTORS AND SUBCONTRACTORS HAVE JOINED FORCES IN CONTRACTOR SAFETY CLUSTERS.

Health, safety and environmental specialist Christian Raaijmakers is involved in selecting and managing contractors with Nederlandse Aardolie Maatschappij (NAM B.V.) Safety is the top priority in the oil and gas

industry. Raaijmakers makes reference to the BP disaster in the Gulf of Mexico, which occurred after an explosion on a semi-submersible platform. The consequences were catastrophic for the environment, while eleven people were killed by

the explosion, and seventeen injured. 'This disaster shows that you must organise safety thoroughly,' believes Raaijmakers. 'To save lives, but also because it could be the death knell of any company that fails to do so.'

Outsourcing

Raaijmakers distinguishes two types of risk. 'What comes out of the ground, oil and gas, is highly explosive and represents a significant fire hazard. These are what we call process risks. There are also operational risks: people fall off scaffolding or steps, for example. Both are important, but the consequences of process risks are greater.'

Of the people who are exposed to risk, eighty to 85 per cent are contractors or subcontractors. NAM

outsources the most dangerous work. But even when only minor physical injuries occur, it is usually employees of contractors or subcontractors who are affected. 'Which is why contractors have a key part to play in improvements to safety performance.'

In the late 1990s, NAM founded the Contractor Safety Day, during which dozens of managers from contracting companies discuss risks and solutions. Raaijmakers explains, 'It is an enjoyable and useful day, but the contractors then don't see each other again for another twelve months.' The contractors were looking for greater continuity.

Networks

This came about in 2007 in the form of five Contractor Safety Clusters: these are networks of contractors and subcontractors in the same field who maintain, if necessary, daily contact about risks and solutions. NAM BV provides the facilities and a representative for regular, if not daily, contact. Raaijmakers gives an example from the Project Engineering & Maintenance cluster, which deals with the maintenance of NAM installations like

TIP

When it comes to safety, you should not seek to be competitive. Show where you make mistakes and work openly on finding solutions with everyone involved.

production platforms on land and at sea, commonly known as oil rigs. 'The contractors and subcontractors in the cluster were regularly adversely affected by changes to dates in the work planning schedules. All too often they had to deal with last-minute jobs, for which they did not have enough time to prepare. That, they believed, was not conducive to safety. Their complaint went straight to the management of NAM, who took appropriate action. Work schedules are now more structured and permanent, and changes are kept to an absolute minimum.'

The clusters are a success, believes Raaijmakers. 'Contractors are focusing more on safety.' That is down to the contractors and subcontractors themselves, but also to the approach taken by NAM. 'We take contractors seriously. We also ask them to let us know what we are not doing right. It's an approach that works.'

Why...

did your organisation enter the Good Practices competition?

By encouraging contractors and subcontractors to work more safely, we are trying to raise safety levels in the oil and gas industry. There is still room for improvement.

should your Good Practice win the competition?

Because it helps us raise safety awareness among contractors and subcontractors to a higher level. We are setting a good example, because outsourcing is very widespread, from the Directorate-General for Public Works and Water Management to hospitals.

is the European campaign a good initiative?

There is so much to learn and share. The message cannot be spread widely enough.

Information

Mr. Christian Raaijmakers

Like to know more about NAM?

[Click here](#)



In to r:

Ms. C. Meijerink (cluster facility management),
Mr. A. Marissen (cluster logistics),
Mr S. Wijnstra (cluster projects, engineering & maintenance),
Mr P. Langbroek (cluster projects, engineering & maintenance)
and Mr. C. Raaijmakers (cluster co-ordinator)

Advice and support for roofers from safety coaches from the 'Stichting Bedrijfstakregelingen Dakbedekkingbranche'

Protection on the roof

ROOFERS WORK AT GREAT HEIGHTS IN ALL WEATHERS, ALL YEAR ROUND. AN OCCUPATIONAL HEALTH AND SAFETY COACH IS TEACHING THEM TO IDENTIFY AND PREVENT RISKS.

Climbing onto a roof is not something most people do every day, but roofers do, and it is not without its risks. Jos van der Borgt, coordinator at the SBD ('Stichting Bedrijfstakregelingen Dakbedekkingbranche' – centre of expertise for the roofing industry concerning occupational health and safety and labour market policy), sums up the most important risks: 'The risk of falling and of fire when working with molten bitumen roof covering.'

Although the rate of sickness-related absenteeism has halved during the last fifteen years, as it has throughout the construction industry, it is still one to two per cent higher than the average for the rest of the construction industry. As Van der Borgt explains, 'That is due primarily to the combination of physi-

cal strain and weather conditions.' Work of a heavy physical nature in icy cold weather can cause long-term harm to muscles and bones. Also, the average age of roofers is higher than it used to be: 39.2, as compared with 30.6 in 1991. 'Working on roofs can be done

more safely and more healthily if roofers are more aware of the risks,' Van der Borgt points out. 'Roofers are too often pre-occupied with the work in hand and they do not stop to think about any possible dangers – 'does that ladder meet the regulations?', for example.'

With the cooperation of the FNV Bouw and CNV Vakmensen trade unions and VEBIDAK (the employers' organisation/trade association for bituminous and plastic-roof covering companies), the SBD has set up the 'Safe & Sound on the Roof' project. 'The aim is for every roofer to learn to identify risks and to act accordingly.' In order to get the message across, two occupational health and safety instructors from the SBD – the safety coaches – pay

visits, every day, to as many projects as possible where roofers are at work. They climb up onto the roofs and take photographs of a roofer adopting an incorrect working posture, for example, and then show the photograph to the roofers. 'They then ask the roofers what they are doing wrong, before advising them on how to improve.' If any particular theme keeps recurring, the SBD organises an information evening, together with

TIP

Communicate properly and clearly with everyone who is involved. And be sure to make provisions for maintenance in your building plans.

the company concerned. The topic can also be included in instruction materials and toolboxes. What kind of response have roofers been making? 'Most are very positive. They want to work safely, and in a way that does not harm their health.' But even the cynics stand to gain. 'Their companies receive reports, so even they have to think about how to make improvements.' SBD currently employs two permanent all-round instructors and coaches.

In Van der Borgt's view, the project has been a success. 'We notice that our instructions and recommendations are translated into behaviour.' An example that appears to support this statement is the campaign about working in the heat. 'Here, we say to the roofers, 'It's great, working with your shirt off on a roof'. But A says, 'the girls down on the street can't see you anyway', and B, 'it can give you skin cancer'. This attitude has now taken hold. Companies are investing in cooling vests to an increasing degree, and are starting to introduce work schedules for when the weather is hot. Manufacturers are making their working materials lighter all the time. In short, the project has very much arrived.'



l. to r.:

Co-ordinator Ad Verhoeven and Paul Aalders (OSH information official and coach)

Why...

did your organisation enter the Good Practices competition?

You have to teach safety in a way that makes people deal with the subject themselves. The roofing industry has done this successfully. That is why we would like to highlight the fact.

should your Good Practice win the competition?

Safety is essential! Look at the risks. Think carefully and act accordingly! Through the 1-to-1 approach we make everyone face up to their own specific situation.

is the European campaign a good initiative?

By providing information and exchanging Good Practices, we can make working in Europe increasingly safe and healthy. Such exchanges are also needed because we notice that products are being used and people employed from other European countries on our building sites more and more frequently.

Information

Mr. Jos van der Borgt

For more information about the safety coaches [Click here](#)

Glass Handling Technic developed a system for repairing greenhouse windows safely

No fragments

BECAUSE GREENHOUSES ARE GETTING BIGGER AND HIGHER, REPAIRING WINDOWS IN THE GREENHOUSE HORTICULTURE INDUSTRY HAS BECOME A TRICKY BUSINESS. AN INDUSTRY-WIDE COLLABORATIVE PARTNERSHIP CAME UP WITH A MAINTENANCE AND REPAIR SYSTEM THAT ALLOWS EMPLOYEES TO CARRY OUT REPAIR WORK SAFELY.

**WINNER
OF DUTCH
GOOD PRACTICE
COMPETITION**
in the category
sectoral initiatives

**EUROPEAN
NOMINATED**

Orchids, as well as fruit and vegetables, thrive on a lot of sunlight and it is for that reason that larger and higher greenhouses have become the norm in the greenhouse horticulture industry in recent years. Greenhouses seven metres in height with panes

of glass measuring four square metres are no exception, all of which is excellent news for the flowers and plants. However, this type of construction can pose difficulties during maintenance work. Just try replacing - safely - a four-square metre pane of glass weighing tens of kilos. 'Nevertheless, the old way of working is still practised,' explains John Berghman of H. Batist Aluminium Constructies in Wateringen. This involves the maintenance employees working inside the greenhouse. Fitters hang steel braces from the building underneath the location of the broken window, on which scaffolding planks are laid. When

a window has to be replaced, the assistant, using a ladder, passes the pane up from among the plants to the man standing on the plank. Once the glass has been successfully passed up, a third fitter climbs into the gutter on the outside and he and the person on the plank then proceed to ease the glass into the frame, in order to close the roof once again. The person in the gutter on the outside is then unable to get back inside of course, and has to make his way back to the ladder via the narrow gutters on the roof.

Falling glass

This process is littered with dangers. There is no protection around the scaffolding plank, for example. The glass fitter is not attached to anything. This means that falls are a real possibility. As the window is being passed up, there is every chance that it might be knocked against some part of the building, not an infrequent occurrence when the wind is strong. The assistant runs the risk of being seriously hurt by falling glass, and there is every likelihood of the person standing just under the

roof sustaining cut wounds while trying to position the glass into the frame. Should it break, then he has virtually no way of avoiding the falling pieces of glass. Finally, it is not unusual for the person on the roof to lose their footing in the gutter and end up falling through the glass.

The industry decided that things could not continue in this way. 'That was also the result of a

LEES VERDER ►

Why...

did your organisation enter the Good Practices competition?

It helps make constructive initiatives visible to everyone.

should your Good Practice win the competition?

The Repair Shuttle has made such a huge improvement in terms of safety. That deserves a prize.

is the European campaign a good initiative?

As in the Netherlands, the greenhouse horticulture industry in other countries is scaling up. Companies abroad can also benefit from ideas and products that enable them to operate more safely.

Information

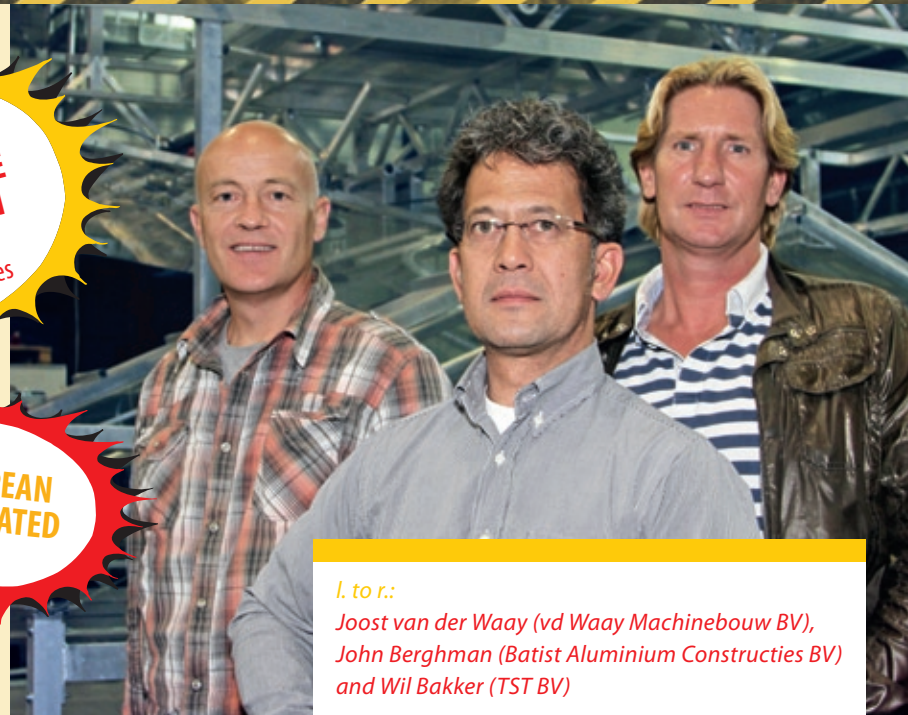
Mr. John Berghman

If you would like to see how the Repair Shuttle works

[Click here](#)

TIP

In the design phase of a project, remember to consider the aspect of maintenance. That will prevent unexpected situations later on and you will be able to carry out maintenance work more safely.



l. to r.:

*Joost van der Waay (vd Waay Machinebouw BV),
John Berghman (Batist Aluminium Constructies BV)
and Wil Bakker (TST BV)*

THE JURY'S OPINION

The jury considers this Good Practice to be an outstanding example of a sector-wide safe solution by and for an innovative branch of industry, glass horticulture. Various parties were closely involved in the development of the Repair Shuttle. It is also a striking example of a technical innovation aimed at safe maintenance that also pays for itself in day-to-day practice. This is why the jury decided unanimously to award this Good Practice both the Dutch prize of 2,500 euros and to nominate it as the Dutch entry for the European Good Practices Awards 2011.

Stichting CCG

The Stichting CCG (foundation for coordinating emergencies in the greenhouse horticultural sector) consists of the following organisations:

- AVAG (trade organisations for contractors and fitters)
- NVOK (association of subcontractors in the greenhouse industry)
- LTO/Glaskracht (the federation of agriculture and horticulture)
- OVTO (organisation of horticultural advisers and researchers)
- Dutch Association of Insurers



number of serious accidents, one of which actually involved a fatality,' recalls Berghman. However, less serious injuries are also unacceptable. Berghman continues, 'The number of accidents is not that high, about four per cent. But if muscles or tendons are hit by fall-

ing glass, it means the employee in question can be off work for a very long time.'

It was for this reason that the 'safe repair' covenant was drawn up in 2002. Every party involved in greenhouse horticulture projects

signed up to it: gardeners, growers, fitters and greenhouse construction companies, through their trade organisations, insurance companies and banks. The covenant contained new guidelines. Roof maintenance work had to be carried out on the outside. Only safety glass could be used for replacing panes larger than 1.8 square metres. And last but not least, a system had to be devised that would enable repair employees to move safely towards and on the roof.

No mean challenge, then. First of all, the various trade organisations came together in the Stichting CCG (foundation for coordinating emergencies in the greenhouse horticultural sector), which ensures compliance with the covenant and has a monitoring role during repair work after an emergency or disaster. Berghman is a member of the foundation for NVOK, the association of subcontractors in the greenhouse industry.

Safe shuttle

The foundation asked TST, van der Waay Machinebouw, De Groot Techniek BV and H. Batist Aluminium Constructies BV – every one of which has widespread experience in maintaining greenhouses – to devise a safe and reliable method for performing maintenance and repair work. CCG financed half of the project, with help from

Hagelunie and the Rabobank. The remaining half was provided by the companies mentioned above. Berghman: 'The idea has support across the whole of the industry.'

A collaborative partnership was formed, bearing the name Glass Handling Technic Vof (GHT), with John Berghman at the helm. Brains were stormed, ideas were mulled over, designs were made, until finally the partners came up with the ultimate solution: the Repair Shuttle – a safe and efficient repair system for use on the outside of glass roofs. A mobile platform with a lift for glass and a glass storage rack moves on rails along the outside wall of the greenhouse. On the roof is a repair vehicle, which runs along the gutter to the place where the repair is to be performed. This vehicle can carry two people and several roof panes. Hoisting equipment and suction caps are also present in the vehicle, with which the fitters can remove the broken glass and place the new pane in the frame. The fitters remain attached to the repair vehicle throughout the entire operation.

Huge benefits

The shuttle is an improvement in every single facet. Because of the way in which the scaffolding is secured and the fact that the fitters are attached to the vehicle, the risk of falling has been more or

less completely eliminated. And as nobody has to stand underneath the window, the likelihood of injury when a window breaks is very slight. Moreover, the work itself is less of a strain, physically.

'It is not just the subcontractors who benefit, but also the clients,' says Berghman. 'The work is carried out more efficiently. Far less time is needed to replace a window, and that limits the costs. In the old situation, the glass would be repaired from the inside which not only damaged the crops, but also increased the risk of viruses being spread from other greenhouses. Because everything is now done from the outside, the client is no longer exposed to that risk.'

'The insurance companies and the banks also feel the benefits,' he goes on. 'Requiring shorter repair times limits the damage, and that safeguards the financial stability of their clients.' In other words, every organisation that is involved with a greenhouse horticulture project is better off through the use of the Repair Shuttle. Berghman sees no reason not to purchase the system. More than anything, that is good news for the fitters themselves. 'After all, we all want to return home safely, don't we?'

NedTrain B.V. involves all its employees with the topic of safety

On the floor

NEDTRAIN WANTS TO NOT ONLY DISCUSS SAFETY, BUT MORE IMPORTANTLY, ACT ON IT. THAT IS WHY THE COMPANY HAS ROLLED OUT AN APPROACH IN WHICH ALL THE NECESSARY ACTIVITIES IN THE FIELD OF SAFETY ARE MEASURED AND IMPROVED UPON.

If you ask the average employee in the Netherlands what safety is, you will get many different answers,' says Peter Booster, HSE manager at NedTrain, which maintains, cleans and overhauls railway carriages. 'But if it means different things to different people, safety will simply remain something that people pay lip service to. We put the emphasis on doing: actually taking action on safety.'

Like employees elsewhere, those at NedTrain are exposed to risks on a daily basis. At the company's overhaul depot in Tilburg, train components are examined and, if necessary, repaired. This takes place in large workshops, with all the risks associated with that kind of environment. Booster mentions the most common: the danger of being trapped, eye injuries when not working with PPE, ankle injuries when material has

TIP

Make sure you involve every employee with the topic of safety.

not been properly cleared away. 'There are rails running through the workshop. If you get caught in one, you can hurt your foot. And of course there is the risk of being run over by a forklift truck.' There are numerous situations that can lead to accidents and injuries, but there is a simple solution. Booster says, 'Get the people on the shop floor involved with safety, talk to them about it, and highlight the risks and solutions.'

Scoreboard

NedTrain uses a unique method to do this. 'The various activities have been classified into nine processes,' explains Booster. 'Works consultations about risks is one process, RI&E is a second, keeping the workplace clean a third, and so on.' Employees and supervisors from each department make joint agreements about the processes for a period of six weeks, after which time an evaluation is made of

whether everyone has kept to them. Have the materials been cleared away properly, has everyone taken part in a works consultation? A score is awarded to the processes. Booster continues, 'The score gives

an indication of the involvement of that particular department with the issue of safety. Has it improved or worsened? If we see that a department has achieved a lower score than previously, we look together at how we can improve it.' A large scoreboard hangs in the factory, displaying the processes and the scores. As Booster says, 'That way, it is possible to make a comparison between the individual efforts of the departments.'

This approach does not actually cost anything. 'The processes are part and parcel of the work.' All the more reason to be pleased. 'The number of accidents since 2008 has fallen by at least ninety per cent,' says Booster. 'Our approach

could be one of the causes behind that. We have noticed that people have started to take safety more seriously. Their basic attitudes have changed. They wear the PPE, tidy up their workplace, put their things back in the right place. They report dangerous situations.'

The method is being applied at every NedTrain location throughout the Netherlands. Tilburg, though, is perhaps doing it better than anywhere else. In 2011, the branch will be moving from Tilburg to Loven. Booster: 'Not everyone is going, but nevertheless, everyone is playing a very active part in raising safety to a higher plane. That I find remarkable.'



In Tilburg we only work if we can do it in a safe way.

If not, we use our STOP!&GO! card.

First row, second from left: Harm Hoen (safety expert); totally right: Ad van Arkel (Production Manager)

Why...

did your organisation enter the Good Practices competition?

It is a competition that is very highly regarded. Putting this approach in the spotlight gives a boost to our employees.

should your Good Practice win the competition?

NedTrain is aiming to be the safest company in Europe. If we win the prize, it would be an outstanding seal of approval for our work.

is the European campaign a good initiative?

It is fantastic to be able to learn from each other in this way.

Information

Mr. Peter Booster

Like to know more about Nedtrain?

[Click here](#)

The WAT Group BV and NAM/Shell launch an overall safety approach

'A way of living'

WORKING SAFELY MEANS BEING AWARE – CONSTANTLY – OF RISKS, AND ACTING ACCORDINGLY. IN ORDER TO GET THIS MESSAGE ACROSS TO EVERYBODY, THE WAT GROUP DEVISED THE 'A WAY OF LIVING' MULTIMEDIA PLATFORM FOR NAM B.V.

E'A way of living' is, in fact, a philosophy. A clear description can be found on the a-way-of-living.info website, which is intended for everyone who works at any NAM/Shell location. 'Working at one of our locations means you have to be aware of the kind of things that can happen on an installation. If you are not, then you may represent a danger to yourself and to others. That is why you must take the time to understand the risks and to learn what you should do in dangerous situations.' The site has been developed by The WAT Group B.V. This communications consultancy works closely together with, among others, the NAM HSE improvement manager for Europe, Piet van Dam.

Clear language

'A way of living' was born as a result of an incident at one of

NAM's locations in 2005, in which two people lost their lives. The accident occurred in spite of all the efforts that NAM had made in raising employees' awareness of risks in the workplace. 'Everyone was concerned with safety, but if you use too many words, the message does not stick,' says managing director of The WAT Group, Pier van Spronsen. 'We 'translated' procedures and work instructions into simple language, so that everyone – NAM, contractors and subcontractors – understands what is expected of them.'

Short and to the point is the motto. Van Spronsen says, 'Countless reports have been written about what can go wrong, but

nobody reads through reports before starting work. But they do look at the website.' It explains, in clear language, what the potential risks are, each step of the way. On the work floor, there are special pocket-size leaflets that employees can look through. There are also presentations and DVDs, and all the information can be found in special storage boxes, which are present on every NAM installation. In other words, every employee knows what the dangers are and what he should do to prevent them. But there is more to it than reading and knowing. Before work starts, maintenance employees run through the risks with the su-

pervisor. Only when every step has been taken to make things safe, may the work begin.

Open

Everyone can view the website, without a code or the need to log in. 'That is very unusual,' claims Van Spronsen. 'There are very few organisations that do that.' Van Spronsen thinks that 'A way of living' is already a success. 'We regularly meet in a working group. Last Tuesday, a contractor mentioned that his company had reduced the number of accidents to zero, thanks to 'A way of living'.' The awkward thing about statistics

is that they can be overtaken by events from one day to the next,' says Van Spronsen, putting the comment into perspective. 'But what he is saying is that he is pleased with the material. Other contractors are very happy with it too. And that's putting it mildly.'

TIP

Communicate clearly. Prevention is always better than cure.



l. to r.:

Piet van Dam and Pier van Spronsen

Why...

did your organisation enter the Good Practices competition?

What we are doing leads to greater safety at work, and that is something we are very proud of.

should your Good Practice win the competition?

Many people in the gas and oil industry stand to benefit from this approach.

is the European campaign a good initiative?

Yes, putting good initiatives in the field of safety in the spotlight is very commendable.

Information

Mr. Pier van Spronsen
(The Wat Group)

Mr. Piet van Dam (NAM/Shell)

If you would like to see the website

Click here

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